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# **Contract Documents and Specifications**

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## **Isaac Murphy Memorial Art Garden Trailhead**

**LFUCG Bid No.: 106-2014  
KYTC Item No.: 07-3103.00 (Parent # 99-219.07)  
Federal Project No.: STPE 3003 263  
May 2014**

**Prepared by:**  
**elementdesign**

landscape architecture + engineering + planning

400 Old Vine Street, Suite 206  
Lexington, Kentucky 40507  
Phone: 859.389.6533

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**TABLE OF CONTENTS**

**CONTRACT DOCUMENTS**

**ISAAC MURPHY MEMORIAL ART GARDEN TRAILHEAD PROJECT**

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PART I	ADVERTISEMENT FOR BIDS
PART II	INFORMATION FOR BIDDERS
PART III	FORM OF PROPOSAL
PART IV	GENERAL CONDITIONS
PART V	SPECIAL CONDITIONS
PART VI	CONTRACT AGREEMENT
PART VII	PERFORMANCE AND PAYMENT BONDS
PART VIII	TECHNICAL SPECIFICATIONS
APPENDIX A	STANDARD DRAWINGS
APPENDIX B	CONSTRUCTION MONITORING PLAN CONSTRUCTION INSPECTION PLAN KYTC APPROVED TRAFFIC MANAGEMENT PLAN ROCK SOUNDINGS INFORMATION
APPENDIX C	LOCAL PUBLIC AGENCIES – SPECIAL PROVISIONS FOR LPA ADMINISTERED PROJECTS

**PART 1**  
**ADVERTISEMENT FOR BIDS**

**INDEX**

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1. INVITATION
2. DESCRIPTION OF WORK
3. OBTAINING PLANS, SPECIFICATIONS, AND BID DOCUMENTS
4. METHOD OF RECEIVING BIDS
5. METHOD OF AWARD
6. BID WITHDRAWAL
7. BID SECURITY
8. SUBMISSION OF BIDS
9. RIGHT TO REJECT
10. NOTIFICATION TO THE LFUCG FOR AFFIRMATIVE ACTION
11. NOTICE CONCERNING DBE GOAL
12. PRE-BID MEETING
13. EXCLUDED PARTIES LIST SYSTEM (EPLS)

**PART 1**

**ADVERTISEMENT FOR BIDS**

**1. INVITATION**

Sealed proposals for the **Issac Murphy Memorial Art Garden Trailhead Project** will be received by the Lexington-Fayette Urban County Government (LFUCG) until **2:00 p.m., local time, June 20, 2014**, for furnishing all labor and/or materials and performing all work as set forth by this advertisement, conditions (general and special), specifications, and/or the drawings prepared by and for Lexington-Fayette Urban County Government, Division of Engineering. Immediately following the scheduled closing time for reception of bids, all proposals which have been submitted in accordance with the above will be publicly opened and read aloud.

This project is a Federal Project subject to the requirements of the Federal-aid Highway Program. The KYTC Item Nuber for this bid is [07-3103.00 (Parent # 99-219.07)]. The federal project number for this bid is [STPE 3003 263], and the Contract ID is [PO2-625-100000-4542]. Federal Form FHWA-1273 is attached hereto and fully incorporated herein by reference.

Except as otherwise indicated on the Plans, and in the Contract Documents and Specifications, all items of Work including materials, construction methods, method of measurement and basis of payment shall comply with the current edition of the *Kentucky Department of Highways (KDOH) Standard Specifications for Road and Bridge Construction, 2012 Edition* and all current revisions.

**2. DESCRIPTION OF WORK**

Consisting of the construction and/or furnishing of items as listed in the Bid Schedule included in Part III, Form of Proposal, of this document, plus incidentals necessary to complete the work.

The **Isaac Murphy Memorial Art Garden Trailhead** is a community park that will incorporate site amenities to encourage social gatherings and serve as a 'starting point' for The Legacy Trail at the east end of downtown. New curbs, sidewalks, seat walls, bike racks, water fountains, flagpoles, landscaping and an amphitheater will provide opportunities for visitors to enjoy the space as well as utilize it as a connection to The Legacy Trail.

The scope of construction involves the removal of existing concrete walk, curb and gutter and construction of new site amenities and utilities. Included improvements are sidewalks, pavers, stone seat walls, storm drainage, site lighting and water line installation.

**Bids will only be accepted from plan holders who have purchased plans from Lynn Imaging and are subsequently registered as "official plan holders." All Contractors and Subcontractors must be qualified for roadway construction by the Kentucky Department of Transportation.**

### 3. OBTAINING PLANS, SPECIFICATIONS, AND BID DOCUMENTS

Specifications, Plans, and Bid Documents may be examined at the following places:

Lexington-Fayette Urban County Government  
Division of Central Purchasing  
200 East Main Street, Third Floor, Room 338  
Lexington, Kentucky 40507  
(859) 258-3320

Builders Exchange of Louisville, Inc.  
2300 Meadow Drive  
Louisville, Kentucky 40218  
(502) 459-9800

LFUCG  
Division of Engineering  
101 East Vine Street, Suite 400  
Lexington, Kentucky 40507  
(859) 258-6630

Reed Construction Data  
30 Technology Parkway South, Suite 100  
Norcross, GA 30092  
(800) 424-3996

AGC/McGraw-Hill Construction  
950 Contract Street, Suite 100  
Lexington, Kentucky 40505  
(859) 425-6630

ISQFT  
4500 Lake Forest Dr., Suite 502  
Cincinnati, OH 45242

Plans, Specifications, and Contract Documents shall be obtained from the official bid document distributor, LYNN IMAGING, 328 Old Vine Street, Lexington, KY 40507, (859) 255-1021 or ([www.lynnimaging.com](http://www.lynnimaging.com)) and click on plan room for a non-refundable price of reproduction for each full set of plans and documents.

### 4. METHOD OF RECEIVING BIDS

Bids will be received from **KYTC Prequalified Prime Contracting** firms on a **Line Item Unit Price Basis** for total Project. The Bidder must include a price for all bid items to be considered. **Bids shall be submitted in the manner and subject to the conditions as set forth and described in the Instruction to Bidders and Special Conditions.**

Mailed bids/proposals should be sent to the Director, Division of Central Purchasing, 200 East Main Street, Lexington, KY 40507.

**5. METHOD OF AWARD**

The Contract, if awarded, will be to the lowest, qualified responsible bidder for the total project whose qualifications indicate the award will be in the best interest of the OWNER and whose bid/proposal complies with all the prescribed requirements. No Notice of Award will be given until the OWNER has concluded such investigation as deemed necessary to establish the responsibility, qualifications and financial ability of Bidders to do the work in accordance with the Contract Documents to the satisfaction of the OWNER within the time prescribed. The OWNER reserves the right to reject the Bid of any Bidder who does not pass such investigation to the OWNER's satisfaction. In analyzing Bids, the OWNER may take into consideration alternate and unit prices, if requested by the Bid forms.

**6. BID WITHDRAWAL**

No bidder may withdraw his bid for a period of sixty (60) calendar days after the closing date for receipt of bids. Errors and omissions will not be cause for withdrawal of bid without forfeit of bid bond. Bids may be withdrawn in person prior to the closing date of receipt of bids.

**7. BID SECURITY**

If the bid is \$50,000 or greater, bid shall be accompanied by a certified check or bid bond payable to the Lexington-Fayette Urban County Government in an amount not less than Five Percent (5%) of the base bid. Bid bond shall be executed by a Surety Company authorized to do business in the Commonwealth of Kentucky and countersigned by a licensed Kentucky Resident Agent, representing the Surety Company. Bid Bonds are not required for bids under \$50,000. A cashier's check or irrevocable letter of credit is an acceptable form of bid security.

**8. SUBMISSION OF BIDS**

CONTRACTORS shall submit their bids to the Lexington-Fayette Urban County Government, Division of Central Purchasing, Third Floor, 200 East Main Street, Lexington, Kentucky 40507. Bids shall be submitted in a sealed envelope not later than **2:00 p.m. local time, June 20, 2014**. Sealed proposals shall be clearly marked on the outside of the container as follows: Company Name and Address, Bid Invitation Number 106-2014, and **Isaac Murphy Memorial Art Garden Trailhead Project** to be opened at **2:00 p.m. local time June 20, 2014**. Bids are to remain sealed until official Bid closure time. Bids received after the scheduled closing time for receipt of bids will not be considered and will be returned unopened.

9. **RIGHT TO REJECT**

The Lexington-Fayette Urban County Government reserves the right to reject any and all bids and to waive all informalities and/or technicalities where the best interest of the Lexington-Fayette Urban County Government may be served.

10. **NOTIFICATION TO THE LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT FOR AFFIRMATIVE ACTION PLAN AND CURRENT WORKFORCE**

The successful bidder must submit the following to the Lexington-Fayette Urban County Government:

1. Affirmative Action Plan for his/her firm.
2. Current Workforce Analysis Form

Failure to submit this as required herein may result in disqualification of the Bidder from the award of the contract.

All submissions should be directed to:

Lexington-Fayette Urban County Government  
Division of Purchasing  
200 East Main Street, 3<sup>rd</sup> Floor, Room 338  
Lexington, Kentucky 40507

11. **NOTICE CONCERNING DBE GOAL**

Notice of requirement for Affirmative Action to ensure Equal Employment Opportunities and Disadvantaged Business Enterprises (DBE) contract participation.

The Lexington-Fayette Urban County Government has set a goal that not less than **eight percent (8%)** of the total value of this contract be subcontracted to Disadvantaged Business Enterprises. The goal for the utilization of Disadvantaged Business Enterprises as subcontractors is a recommended goal. Contractors who fail to meet such goals will be expected to provide written explanations to the Director of the Division of Central Purchasing of efforts they have made to accomplish the recommended goals, and the extent to which they are successful in accomplishing the recommended goals will be a consideration in the procurement process.

For assistance in locating Disadvantaged Business Enterprises Subcontractors contact:

Marilyn Clark, Division of Central Purchasing  
Lexington-Fayette Urban County Government  
200 East Main Street, 3<sup>rd</sup> Floor, Room 338



Lexington, Kentucky 40507  
(859) 258-3323

**12. PRE-BID MEETING (Non-Mandatory)**

There is a pre-bid meeting scheduled for this project for 10:00 AM on June 6, 2014 at the project site located at 577 West 3<sup>rd</sup> Street, Lexington, KY.

**13. EXCLUDED PARTIES LIST SYSTEM (EPLS/SAM)**

Prior to project being awarded, LFUCG will verify that the contractor is not listed on an "Excluded Parties List System" (suspended or debarred), as identified within the "SAM" site at <http://www.sam.gov>.

The EPLS is an electronic, web-based system that identifies those parties excluded from receiving Federal contracts, certain subcontracts and certain types of Federal financial and non-financial assistance and benefits. The EPLS keeps its user community aware of administrative and statutory exclusions across the entire government, and individual barred firm entering the United States. The user is able to search, view, and download both current and archived exclusions.

EPLS access is available from any personal computer with Internet connectivity and a minimum web browser of Netscape 4.04 Internet Explorer 4.04 or Internet Explorer 4.0 at <http://www.sam.gov>.

END OF SECTION

**PART II**  
**INFORMATION FOR BIDDERS**

**INDEX**

1. RECEIPT AND OPENING OF BIDS
2. PREPARATION OF BID
3. SUBCONTRACTS
4. QUALIFICATION OF BIDDER
5. BID SECURITY
6. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT
7. TIME OF COMPLETION AND LIQUIDATED DAMAGES
8. EXAMINATION OF CONTRACT DOCUMENTS AND SITE
9. ADDENDA AND INTERPRETATIONS
10. SECURITY FOR FAITHFUL PERFORMANCE
11. POWER OF ATTORNEY
12. TAXES AND WORKMEN'S COMPENSATION
13. LAWS AND REGULATIONS
14. EROSION AND SEDIMENT CONTROL AND PERMITS
15. PREVAILING WAGE LAW AND MINIMUM HOURLY RATES
16. AFFIRMATIVE ACTION PLAN
17. CONTRACT TIME
18. SUBSTITUTION OR "OR-EQUAL" ITEMS
19. ALTERNATE BIDS
20. SIGNING OF AGREEMENT
21. ASSISTANCE TO BE OFFERED TO DBE CONTRACTORS
22. REQUIRED SUBMITTALS

## PART II

### INFORMATION FOR BIDDERS

#### **1. RECEIPT AND OPENING OF BIDS**

The Lexington-Fayette Urban County Government (herein called the OWNER) invites bids from firms on the project described in the Advertisement for Bids. The OWNER will receive bids at the Division of Purchasing, at the time and in the manner set forth in the Advertisement for Bids, and the Bids will then be publicly opened and read aloud. The OWNER may consider informal any bid not prepared and submitted in accordance with the provisions hereof and may waive any informalities or reject any and all bids. Any bid may be withdrawn prior to the scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified shall not be considered. No bidder may withdraw a bid within 60 days after the actual time and date of the bid opening, but OWNER may, in its sole discretion, release any bid and return the Bid Security prior to that date.

The Lexington-Fayette Urban County Government assumes no responsibility for bids that are not addressed and delivered as indicated above. Bids that are not delivered to the Division of Central Purchasing by the stated time and date will be rejected.

#### **2. PREPARATION OF BID**

Each bid must be submitted on the prescribed Form of Proposal. All blank spaces for the bid prices must be filled in, either in ink or typewritten, for both unit prices and extensions. Totals for each bid item must be added to show the total amount of the bid. Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, their address, the name of the project, the invitation number and time and date for which the bid is submitted. Bids must be addressed to the Director of Central Purchasing, Lexington-Fayette Urban County Government, Third Floor, 200 East Main Street, Lexington, Kentucky 40507. If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified above.

#### **3. SUBCONTRACTS**

The bidder is specifically advised that any person, firm, or other party to whom it is proposed to award a subcontract under this Contract must be acceptable to the OWNER. All proposed subcontractors must be identified on the Form of Proposal. Prior to the award of Contract, the OWNER or the OWNER'S representative will advise the CONTRACTOR of the acceptance and approval thereof or of any action necessary to be taken. Should any Subcontractor be rejected by the OWNER, the CONTRACTOR shall present a new name and/or firm to the OWNER at no change in the Contract Price.

#### 4. QUALIFICATION OF BIDDER

The OWNER may make such investigations as the OWNER deems necessary to determine the ability of the bidder to perform the Work, and the bidder shall furnish to the OWNER all such information and data for this purpose as the OWNER may request. The OWNER reserves the right to reject any bid if the evidence submitted by, or investigation of, such bidder fails to satisfy the OWNER that such bidder is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein. Conditional bids will not be accepted.

In evaluating Bids, OWNER shall consider the qualifications of the BIDDERS, whether or not the Bids comply with the prescribed requirements, and alternatives and unit prices, as requested. OWNER may consider maintenance requirements, performance data, and disruption or damage to private property. It is OWNER'S intent to accept alternatives, if requested by the bid forms, in the order in which they are listed in the Bid Form but OWNER may accept or decline them in any order or combination. The contract, if awarded, will be awarded to the lowest, qualified, responsible BIDDER based upon OWNER'S evaluation which indicates that the award will be in the best interest of OWNER and the general public.

In the event there is any question as to the bidder's qualifications and ability to complete the work, a final determination will be made in accordance with a fair evaluation by the Urban County Government of the above listed elements.

- A. If the OWNER requires filling out a detailed financial statement, the bidder may provide its current certified financial statement(s) for the required time interval.
- B. Corporate firms are required to be registered and in good standing with the requirements and provisions of the Office of the Secretary of State, Commonwealth of Kentucky.
- C. Good standing with Public Works Act - any CONTRACTOR and/or subcontractors in violation of any wage or work act provisions (KRS 337.510 to KRS 337.550) are prohibited by Statutory Act (KRS 337.990) from bidding on or working on any and all public works contracts, either in their name or in the name of any other company, firm or other entity in which he might be interested. No bid from a prime contractor in violation of the Act can be considered, nor will any subcontractor in violation of the Act be approved and/or accepted. The responsibility for the qualifications of the subcontractor is solely that of the prime contractor.
- D. Documents Required of CONTRACTOR - (1) A sworn statement signed by the President or owner of the Company regarding all current work in progress anywhere; (2) A document showing the percent of completion of each project and the total worth of each project; and (3) Documentation showing the percentage of

the DBE employment levels on each project of the Bidder's current work force, and DBE participation levels for Subcontractors.

- E. Optional OWNER Requirements - The OWNER, at its discretion, may require the BIDDER/CONTRACTOR to provide: (1) A current detailed financial statement for a period including up to 3 prior years. (2) Financial security or insurance in amounts and kinds acceptable to the OWNER to meet the financial responsibility requirements for the CONTRACTOR to indemnify the OWNER. (3) Additional information and/or DBE work force data, as well as DBE participation data.

**Each bidder agrees to waive any claim it has or may have against the Owner, the Architect/Engineer, and their respective employees, arising out of or in connection with the administration, evaluation, or recommendation of any bid.**

- F. **Bids will only be accepted from plan holders who have purchased plans from Lynn Imaging and are subsequently registered as "official plan holders." All Contractors and Subcontractors must be qualified for roadway construction by the Kentucky Department of Transportation.**

## **5. BID SECURITY**

- A. Each bid must be accompanied by a bid bond prepared on a Form of Bid Bond and attached hereto, duly executed by the bidder as principal and having as surety thereon a surety company approved by the OWNER, in the amount of 5% of the bid. Such bid bond will be returned to the unsuccessful bidder(s) only upon written request to the Director of Central Purchasing within seven (7) days of opening of bids. Bid bond shall be made payable to the Lexington-Fayette Urban County Government. Bid security is not required for projects under \$50,000.
- B. Bonds shall be placed with an agent licensed in Kentucky with surety authorized to do business within the state. When the premium is paid for such coverage, the full commission payable shall be paid to such local agent who shall not divide such commission with any person other than a duly licensed resident local agent.

## **6. LIQUIDATED DAMAGES FOR FAILURE TO ENTER INTO CONTRACT**

The successful bidder, upon his failure or refusal to execute and deliver the Contract and bonds required within ten (10) days after he has received notice of the acceptance of his bid, shall forfeit to the OWNER, as liquidated damages for such failure or refusal, the security deposited with his bid.

PART III

Invitation to Bid No. 106-2014

Isaac Murphy Memorial Art Garden Trailhead Project

1. FORM OF PROPOSAL

Place: Lexington, Kentucky

Date: June 20, 2014

The following Form of Proposal shall be followed exactly in submitting a proposal for this Work.

This Proposal Submitted by Bluegrass Contracting Corporation  
1075 Red Mile Rd, Lexington, KY 40504  
(Name and Address of Bidding Contractor)

(Hereinafter called "Bidder"), organized and existing under the laws of the State of KY, doing business as a corporation  
"a corporation," "a partnership", or an "individual" as applicable.

To: Lexington-Fayette Urban County Government  
(Hereinafter called "OWNER")  
Office of the Director of Purchasing  
200 East Main Street, 3rd Floor  
Lexington, KY 40507

Gentlemen:

The Bidder, in compliance with your Invitation for Bids for the Isaac Murphy Memorial Art Garden Trailhead Project having examined the Plans and Specifications with related documents, having examined the site for proposed Work, and being familiar with all of the conditions surrounding the construction of the proposed Project, including the availability of materials and labor, hereby proposes to furnish all labor, materials, and supplies, and to construct the Project in accordance with the Contract Documents, within the time set forth therein, and at the lump sum and/or unit prices stated hereinafter. These prices are to cover all expenses incurred in performing the Work required under the Contract Documents, of which this proposal is a part.

BIDDER hereby agrees to commence work under this contract on or before a date to be specified in the Notice to Proceed and to fully complete the project within **one hundred twenty (120) consecutive calendar days** thereafter. BIDDER further agrees to pay liquidated damages, the sum of **\$1,650.00** for each consecutive calendar day thereafter.

The Bidder hereby acknowledges receipt of the following addenda:

Addendum No. 1 Date 6/6/14  
Addendum No. 2 Date 6/11/14  
Addendum No. 3 Date 6/12/14  
Addendum No. 4 Date 6/12/14  
Addendum No. \_\_\_\_\_ Date \_\_\_\_\_  
Addendum No. \_\_\_\_\_ Date \_\_\_\_\_  
Addendum No. \_\_\_\_\_ Date \_\_\_\_\_  
Addendum No. \_\_\_\_\_ Date \_\_\_\_\_

Insert above the number and the date of any Addendum issued and received. If none has been issued and received, the word "NONE" should be inserted.

2. LEGAL STATUS OF BIDDER

Bidder Bluegrass Contracting Corporation

Date June 20, 2014

\* 1. A corporation duly organized and doing business under the laws of the State of KY, for whom Mark W. Johnson, bearing the official title of President, whose signature is affixed to this Bid/Proposal, is duly authorized to execute contracts.

~~\* 2. A Partnership, all of the members of which, with addresses are: (Designate general partners as such)~~

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

~~\* 3. An individual, whose signature is affixed to this Bid/Proposal (please print name)~~

\_\_\_\_\_  
\_\_\_\_\_

\*(The Bidder shall fill out the appropriate form and strike out the other two.)



3. **BIDDERS AFFIDAVIT**

**REQUIRED AFFIDAVIT FOR BIDDERS, OFFERORS AND CONTRACTORS  
FOR BIDS AND CONTRACTS IN GENERAL:**

I. Each bidder or offeror swears and affirms under penalty of perjury, that:

a. In accordance with KRS 45A.110 and KRS 45A.115, neither the bidder or offeror as defined in KRS 45A.070(6), nor the entity which he/she represents, has knowingly violated any provisions of the campaign finance laws of the Commonwealth of Kentucky; and the award of a contract to the bidder or offeror or the entity which he/she represents will not violate any provisions of the campaign finance laws of the Commonwealth.

b. The bidder or offeror swears and affirms under penalty of perjury that, to the extent required by Kentucky law, the entity bidding, and all subcontractors therein, are aware of the requirements and penalties outlined in KRS 45A.485; have properly disclosed all information required by this statute; and will continue to comply with such requirements for the duration of any contract awarded.

c. The bidder or offeror swears and affirms under penalty of perjury that, to the extent required by Kentucky law, the entity bidding, and its affiliates, are duly registered with the Kentucky Department of Revenue to collect and remit the sales and use tax imposed by KRS Chapter 139, and will remain registered for the duration of any contract awarded.

d. The bidder or offeror swears and affirms under penalty of perjury that the entity bidding is not delinquent on any state taxes or fees owed to the Commonwealth of Kentucky and will remain in good standing for the duration of any contract awarded.

**FOR "NON-BID" CONTRACTS (I.E. SOLE-SOURCE; NOT-PRACTICAL OR  
FEASIBLE TO BID; OR EMERGENCY CONTRACTS, ETC):**

II. Each contractor further swears and affirms under penalty of perjury, that:

a. In accordance with KRS 121.056, and if this is a non-bid contract, neither the contractor, nor any member of his/her immediate family having an interest of 10% or more in any business entity involved in the performance of any contract awarded, have contributed more than the amount specified in KRS 121.150 to the campaign of the gubernatorial slate elected in the election last preceding the date of contract award.

b. In accordance with KRS 121.330(1) and (2), and if this is a non-bid contract, neither the contractor, nor officers or employees of the contractor or any entity affiliated with the contractor, nor the spouses of officers or employees of the

contractor or any entity affiliated with the contractor, have knowingly contributed more than \$5,000 in aggregate to the campaign of a candidate elected in the election last preceding the date of contract award that has jurisdiction over this contract award.

c. In accordance with KRS 121.330(3) and (4), and if this is a non-bid contract, to the best of his/her knowledge, neither the contractor, nor any member of his/her immediate family, his/her employer, or his/her employees, or any entity affiliated with any of these entities or individuals, have directly solicited contributions in excess of \$30,000 in the aggregate for the campaign of a candidate elected in the election last preceding the date of contract award that has jurisdiction over this contract.

As a duly authorized representative for the bidder, offeror, or contractor, I have fully informed myself regarding the accuracy of all statements made in this affidavit, and acknowledge that the Commonwealth is reasonably relying upon these statements, in making a decision for contract award and any failure to accurately disclose such information may result in contract termination, repayment of funds and other available remedies under law.

**BIDDERS AFFIDAVIT (LFUCG)**

Comes the Affiant, Mark W. Johnson, and after being first duly sworn, states under penalty of perjury as follows:

1. His/her name is Mark W. Johnson and he/she is the individual submitting the bid or is the authorized representative of Bluegrass Contracting Corporation, the entity submitting the bid (hereinafter referred to as "Bidder").
2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.



4. **BID SCHEDULE – SCHEDULE OF VALUES**

The Bidder agrees to perform all the Work described in the Specifications and shown on the Plans for the following proposed lump sum and/or unit prices, if applicable, which shall include the furnishing of all labor, materials, supplies, equipment and/or vehicle usage, services, all items of cost, overhead, taxes (federal, state, local), and profit for the Contractor and any Subcontractor involved, within the time set forth herein. If unit prices are applicable, Bidder must make the extensions and additions showing the total amount of bid.

If a discrepancy between the unit price and the item total exists, the unit price prevails except:

If the unit price is illegible, omitted, or the same as the item total, item total prevails and the unit price is the quotient of the item total and the quantity.

If the unit price and the item total are illegible or are omitted, the bid may be determined nonresponsive. If a lump sum total price is illegible or is omitted, the bid may be determined nonresponsive.

For a unit price based bid, the sum of the item totals is the bid amount the Division uses for bid comparison.

The LFUCG's decision on the bid amount is final.

The contract, if awarded, will be on the basis of materials and equipment specified in the specifications without consideration of possible substitute or "or equal" items.

The estimated quantities of items of unit price work are not guaranteed and are solely for the purpose of comparison of bids and determining an initial Contract price. Determination of the actual quantities and classification of unit price work performed by the Contractor will be made by the Engineer in accordance with the General Conditions.

**Payment:**

Accepted quantities for Work shall be paid for at their respective Contract "Unit Price" as quoted (which shall be for all Work required under this Section) and paid per "Unit To Bid On" of specified "Description" satisfactorily placed. All labor, materials, equipment, and excavation shall be incidental to the Work.

**Digital Bid Submittals:**

Bidders will also be required to submit a digital version of the Unit Prices and Total Amount Bid. The excel spreadsheet is available through the LFUCG's Economic Engine website (<https://lfucg.economicengine.com>). If there is a discrepancy between the digital and written versions, then the written version shall prevail.

**TOTAL BASE BID AND DEDUCT ALTERNATE INSTRUCTIONS:**

Contractor shall provide bids for the TOTAL BID AMOUNT and all DEDUCT ALTERNATES (as individually described) included in this FORM OF PROPOSAL and the Construction Documents. If TOTAL BID AMOUNT is within Owner's budget, Deduct Alternates may not be removed from the project. If any or all Deduct Alternates are selected by the Owner, they shall be selected and removed from the TOTAL BID AMOUNT in sequential order from #6 to #1 (i.e. #6 shall be removed first).

**Total Base Bid Items**

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price	Unit Price	Total Amount Bid
1.	1	LS	Maintain and Control Traffic Per Lump Sum Twenty thousand, nine hundred & eighty dollars & No cents	\$ 20,980.00	\$ 20,980.00
2.	1	LS	Construction Staking Per Lump Sum Seven thousand, six hundred & twenty dollars & no cents	\$ 7,620.00	\$ 7,620.00
3.	625	LF	Silt Fence Per Lineal Foot Three dollars & No cents	\$ 3.00	\$ 1,875.00
4.	1	LS	Excavation/Replacement On-Site Per Lump Sum Fifty five thousand dollars and No cents	\$ 55,000.00	\$ 55,000.00
5.	210	CY	Topsoil haul-In & Placement Per Cubic Yard Twenty six dollars & No cents	\$ 26.00	\$ 5,460.00
6.	225	LF	Remove Existing Concrete Curb Eight dollars & Forty cents	\$ 8.40	\$ 1,890.00
7.	200	LF	Remove Existing Concrete Curb and Gutter Per Lineal Foot Eighteen dollars & Seventy five cents	\$ 18.75	\$ 3,750.00
8.	205	SY	Remove Existing Concrete Sidewalk Per Square Yard Twenty two dollars & No cents	\$ 22.00	\$ 4,510.00
9.	270	SY	Remove Bituminous Pavement Per Square Yard Thirteen dollars & Seventy five cents	\$ 13.75	\$ 3,712.50
10.	530	LF	Edge Key Per Lineal Foot Six dollars & Eighty cents	\$ 6.80	\$ 3,604.00

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price	Unit Price	Total Amount Bid
11.	130	LF	8" HDPE Storm Sewer Per Lineal Foot <i>Seventy three dollars &amp; No cents</i>	\$ <u>73.00</u>	\$ <u>9,490.00</u>
12.	40	LF	4" Perforated Pipe Per Lineal Foot <i>Thirty one dollars &amp; No cents</i>	\$ <u>31.00</u>	\$ <u>1,240.00</u>
13.	1	EA	Pipe Tie Into Existing Manhole/Storm Structure Per Each <i>One thousand, one hundred &amp; sixty seven dollars &amp; No cents</i>	\$ <u>1,167.00</u>	\$ <u>1,167.00</u>
14.	4	EA	Storm Drain Inlet Protection Per Each <i>Seventy five dollars &amp; Twenty five cents</i>	\$ <u>75.25</u>	\$ <u>301.00</u>
15.	1	EA	Adjust Existing Drainage Structure @ park Per Each <i>Four hundred &amp; four dollars &amp; Fifty cents</i>	\$ <u>404.50</u>	\$ <u>404.50</u>
16.	1	EA	Adjust Existing Drainage Structure & Manhole @ corner Per Each <i>Four hundred &amp; four dollars &amp; Fifty cents</i>	\$ <u>404.50</u>	\$ <u>404.50</u>
17.	3	EA	Flush Box Hydrant Per Each <i>Two thousand, three hundred &amp; eighty dollars &amp; No cents</i>	\$ <u>2,380.00</u>	\$ <u>7,140.00</u>
18.	5	EA	Meter Box w/ Curb Stop and Valve Checks Per Each <i>One thousand, six hundred &amp; sixty two dollars &amp; No cents</i>	\$ <u>1,662.00</u>	\$ <u>8,310.00</u>
19.	1	EA	Reduced Pressure Zone Backflow Prevention Device Per Each <i>Two thousand, eight hundred &amp; one dollars &amp; No cents</i>	\$ <u>2,801.00</u>	\$ <u>2,801.00</u>
20.	2	EA	1" to 3/4" Water Line Reducer Per Each <i>One hundred &amp; one dollars &amp; No cents</i>	\$ <u>101.00</u>	\$ <u>202.00</u>
21.	4	EA	Water Line "Tee" Connections Per Each <i>One hundred dollars &amp; No cents</i>	\$ <u>100.00</u>	\$ <u>400.00</u>
22.	180	LF	1" PVC Water Line Conduit Per Lineal Foot <i>Thirty two dollars and twenty five cents</i>	\$ <u>32.25</u>	\$ <u>5,805.00</u>
23.	80	LF	3/4" PVC Water Line Conduit Per Lineal Foot <i>Twenty nine dollars &amp; No cents</i>	\$ <u>29.00</u>	\$ <u>2,320.00</u>
24.	10	CY	Flowable Fill Backfill Per Cubic Yard <i>One hundred &amp; nineteen dollars &amp; No cents</i>	\$ <u>119.00</u>	\$ <u>1,190.00</u>

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price	Unit Price	Total Amount Bid
25.	40	TON	Class 1 Bituminous Asphalt Surface Per Ton One hundred + eighteen dollars + No cents	\$ 118.00	\$ 4,720.00
26.	70	TON	Dense Grade Aggregate Per Ton Twenty nine dollars + No cents	\$ 29.00	\$ 2,030.00
27.	325	LF	Concrete Curb & Gutter Per Lineal Foot Thirty five dollars + Seventy five cents	\$ 35.75	\$ 11,618.75
28.	345	LF	Concrete Header Curb Per Lineal Foot Thirty four dollars + Fifty cents	\$ 34.50	\$ 11,902.50
29.	795	SY	Concrete Sidewalk Per Square Yard Fifty two dollars + Twenty five cents	\$ 52.75	\$ 41,936.25
30.	118	SF	ADA Detectable Warning Tile (Install Only) Per Square Foot Twenty six dollars + Twenty five cents	\$ 26.25	\$ 3,097.50
31.	622	SY	Permeable Pavers W/ Washed Stone Base (See Deduct Alternate #3) Per Square Yard Ninety six dollars + Fifty cents	\$ 96.50	\$ 60,023.00
32.	508	LF	Paver Edge Restraint (See Deduct Alternate #3) Per Lineal Foot Seven dollars and No cents	\$ 7.00	\$ 3,556.00
33.	500	SY	Temporary Seeding & Protection Per Square Yard One dollar + twenty cents	\$ 1.20	\$ 600.00
34.	1,175	SY	Sodding and Fine Grading Per Square Yard Seven dollars + sixty cents	\$ 7.60	\$ 8,930.00
35.	11	EA	2" B&B Caliper Large Shade Tree Per Each Four hundred + ninety dollars + No cents	\$ 490.00	\$ 5,390.00
36.	4	EA	6'-7' Ht. B&B Evergreen Tree (See Deduct Alternate #1) Per Each Four hundred + ninety dollars + No cents	490.00	1,960.00
37.	3	EA	6' Ht. B&B Medium Shade Tree (See Deduct Alternate #1) Per Each Four hundred + forty three dollars + Fifty cents	\$ 443.50	\$ 1,330.50

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price	Unit Price	Total Amount Bid
38.	3	EA	2" Caliper B&B Ornamental Shade Tree (See Deduct Alternate #1) Four hundred & forty Per Each three dollars & No cents	\$ 443.50	\$ 1,330.50
39.	25	EA	4'-5' Ht. B&B Large Shrub Per Each One hundred & twenty two dollars & Fifty cents	\$ 122.50	\$ 3,062.50
40.	31	EA	30" Ht. Small Shrub Per Each Ninety three dollars & Fifty cents	\$ 93.50	\$ 2,898.50
41.	558	EA	1 Gallon Container Ornamental Grasses Per Each Nineteen dollars & Twenty five cents	\$ 19.25	\$ 10,741.50
42.	200	EA	1 Gallon Container Perennials Per Each Nineteen dollars & Twenty five cents	\$ 19.25	\$ 3,850.00
43.	2,202	EA	1 Quart Container Groundcover Per Each Seven dollars & Thirty cents	\$ 7.30	\$ 16,074.60
44.	319	LF	Stone Seat Wall (21" Ht.) in Park See Also Deduct Alternate #2 Per Lineal Foot Two hundred & twenty five dollars & No cents	\$ 225.00	\$ 71,775.00
45.	23	LF	Stone Seat Wall (21" Ht.) at Corner of 3 <sup>rd</sup> St & Midland Ave. See Also Deduct Alternate #4 Per Lineal Foot Two hundred & twenty five dollars & No cents	\$ 225.00	\$ 5,175.00
46.	25	SY	Stone Steps Per Square Yard Two hundred & fifty seven dollars & No cents	\$ 257.00	\$ 6,425.00
47.	290	LF	Stone Seating (Amphitheater) Per Lineal Foot Two hundred & ten dollars & No cents	\$ 210.00	\$ 60,900.00
48.	43	LF	Stone Garden Entrance Wall with Stone Columns & Caps Per Lineal Foot	\$ 1,000.00	\$ 43,000.00
49.	2	EA	Limestone Panel with Engraved Letters for Garden Entrance Wall Per Each Two thousand, three hundred & thirty three dollars & No cents	\$ 2,333.00	\$ 4,666.00
50.	1	EA	Public Improvement Sign (LFUCG Standard) Per Each Eight hundred & thirty nine dollars and No cents	\$ 839.00	\$ 839.00



Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price	Unit Price	Total Amount Bid
51.	1	LS	Bicycle Rack Hardware & Installation Per Lump Sum Thirteen thousand, two hundred & twenty dollars & No cents	\$13,220. <sup>00</sup>	\$13,220. <sup>00</sup>
52.	1	EA	Drinking Water Fountain w/ Bottle Filler & Pet Bowl Per Each Five thousand, seven hundred & seventy dollars & No cents	\$5,770. <sup>60</sup>	\$5,770. <sup>00</sup>
53.	1	EA	Stone Trash Receptacle Three thousand, five See Also Deduct Alternate #5 hundred & fifty eight Per Each dollars & No cents	\$3,558. <sup>00</sup>	\$3,558. <sup>00</sup>
54.	6	EA	Light Fixture "A" Per Each Two thousand, two hundred & twenty five dollars & No cents	\$2,275. <sup>00</sup>	\$13,650. <sup>00</sup>
55.	4	EA	Light Fixture "B" Per Each Two thousand one hundred & ninety three dollars & No cents	\$2,193. <sup>00</sup>	\$8,772. <sup>00</sup>
56.	6	EA	Light Fixture "C" Per Each Two thousand & eighty eight dollars & No cents	\$2,088. <sup>00</sup>	\$12,528. <sup>00</sup>
57.	1	EA	Photocell Per Each Eight hundred & twenty eight dollars & Fifty cents	\$828. <sup>50</sup>	\$828. <sup>50</sup>
58.	250	LF	Conduit and Wiring For Light Fixtures Per Lineal Foot Eleven dollars & seventy five cents	\$11. <sup>75</sup>	\$2,937. <sup>50</sup>
59.	7	EA	Junction Boxes Per Each Eight hundred & five dollars & No cents	\$805. <sup>00</sup>	\$5,635. <sup>00</sup>
60.	400	LF	Conduit and Wiring For Junction Boxes Per Lineal Foot Thirteen dollars & No cents	\$13. <sup>00</sup>	\$5,200. <sup>00</sup>
61.	40	LF	2-1/2" Conduit Riser on Utility Pole Per Lineal Foot Sixty two dollars & No cents	\$62. <sup>00</sup>	\$2,480. <sup>00</sup>
62.	228	LF	Install 4" Conduits for Future Use Per Lineal Foot Fifteen dollars & No cents	\$15. <sup>00</sup>	\$3,420. <sup>00</sup>
63.	40	LF	Underground Secondary Feeder Per Lineal Foot Fifty nine dollars & Fifty cents	\$59. <sup>50</sup>	\$2,380. <sup>00</sup>
64.	1	EA	Panel "A" Four thousand, four hundred Per Each & fifty six dollars & No cents	\$4,456. <sup>00</sup>	\$4,456. <sup>00</sup>

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price	Unit Price	Total Amount Bid
65.	1	EA	Electric Meter Base Per Each Two hundred + thirty three dollars + fifty cents	\$ <u>233.50</u>	\$ <u>233.50</u>
66.	1	EA	Grounding Mat Per Each Nine hundred + fifty six dollars + Fifty cents	\$ <u>956.50</u>	\$ <u>956.50</u>
67.	70	LF	TRAFFIC - Conduit - 1 1/2" (KYTC Item No. 4793) Per Lineal Foot Seventeen dollars + Fifty cents	\$ <u>17.50</u>	\$ <u>1,225.00</u>
68.	235	LF	TRAFFIC - Conduit - 2" (KYTC Item No. 4795) Per Lineal Foot Thirteen dollars + Twenty five cents	\$ <u>13.25</u>	\$ <u>3,113.75</u>
69.	235	LF	TRAFFIC - Trenching and Backfilling (KYTC Item No. 4820) Per Lineal Foot Seventeen dollars + Twenty five cents	\$ <u>17.25</u>	\$ <u>4,053.75</u>
70.	1220	LF	TRAFFIC - Cable No. 14/7C (KYTC Item No. 4845) Per Lineal Foot Two dollars + Forty cents	\$ <u>2.40</u>	\$ <u>2,928.00</u>
71.	55	TN	TRAFFIC - Mill 1 1/2" Bituminous Pavement Surface See Deduct Alternate #6 Per Ton Twenty five dollars + Fifty cents	\$ <u>25.50</u>	\$ <u>1,402.50</u>
72.	55	TN	TRAFFIC - Add 1 1/2" Bituminous Pavement <sup>Surface</sup> See Deduct Alternate #6 Per Ton One hundred + eighteen dollars + No cents <sup>MWS</sup>	\$ <u>118.00</u>	\$ <u>6,490.00</u>
73.	450	LF	TRAFFIC - Add Thermoplastic Striping to Mill & Resurface Area of 3 <sup>rd</sup> Street and Intersection See Deduct Alternate #6 Per Lineal Foot Three dollars + Twenty cents	\$ <u>3.20</u>	\$ <u>1,440.00</u>
74.	625	LF	TRAFFIC - Add Thermoplastic Striping - Midland Ave. & Park Crosswalks Per Lineal Foot Three dollars + Twenty cents	\$ <u>3.20</u>	\$ <u>2,000.00</u>
75.	24	LF	TRAFFIC - Pavement Striping Removal - 12" (KYTC Item No. 6533) Per Lineal Foot Seven dollars + Eighty five cents	\$ <u>7.85</u>	\$ <u>188.40</u>
76.	328	LF	TRAFFIC - Pavement Marking Thermoplastic Crosswalk Striping - 12" (KYTC Item No. 6566) Per Lineal Foot Seven dollars + Eighty five cents	\$ <u>7.85</u>	\$ <u>2,574.80</u>
77.	54	LF	TRAFFIC - Pavement Marking Thermoplastic Stop Bar - 24" Wide (KYTC Item No. 6568) Per Lineal Foot Four dollars + thirty five cents	\$ <u>4.35</u>	\$ <u>234.90</u>

Item No.	Quantity	Unit To Bid On	Description w/Unit Bid Price	Unit Price	Total Amount Bid
78.	4	EA	TRAFFIC - Pavement Marking Thermoplastic Thru/Right Arrow (KYTC Item No. 6574) <sup>MWJ</sup> Per Each Three hundred & twenty dollars & no cents	\$ 320.00	\$ 1,280.00
79.	1	EA	TRAFFIC - Relocate Signal Head (KYTC Item No. 21659NN) Per Each Three hundred & forty four dollars & fifty cents	\$ 344.50	\$ 344.50
80.	1	EA	TRAFFIC - Span Mounted Sign (KYTC Item No. 23052NN) Per Each Four hundred & seventy five dollars & no cents	\$ 475.00	\$ 475.00
81.	4	EA	TRAFFIC - Sidewalk Ramp (KYTC Item No. 03290) Per Each One thousand two hundred & seventy nine dollars & no cents	\$ 1,279.00	\$ 5,116.00
82.	4	EA	TRAFFIC - Install Pedestrian Head LED - (Materials by KYTC) Per Each Two hundred & thirty three dollars & fifty cents	\$ 233.50	\$ 934.00
83.	1	EA	TRAFFIC - Install Signal - 3 Section LED - (Materials by KYTC) Four hundred & eight dollars & fifty cents Per Each	\$ 408.50	\$ 408.50
84.	4	EA	TRAFFIC - Install Pedestrian Detector - (Materials by KYTC) Per Each Three hundred & twenty seven dollars & no cents	\$ 327.00	\$ 1,308.00
85.	4	EA	TRAFFIC - Install Signal Pedestal - (Materials by KYTC) Per Each Two hundred & four dollars & fifty cents	\$ 204.50	\$ 818.00
86.	4	EA	TRAFFIC - Electrical Junction Box Type B - (KYTC Item No. 4811) Per Each Five hundred & fifty four dollars & fifty cents	\$ 554.50	\$ 2,218.00
87.	1	LS	Mobilization (Max 3% Allowed by KYTC) Per Lump Sum Nineteen thousand, eight hundred dollars & no cents	\$ 19,800.00	\$ 19,800.00
88.	1	LS	Demobilization (Max 1.5% Allowed by KYTC) Per Lump Sum Nine thousand, nine hundred dollars & no cents	\$ 9,900.00	\$ 9,900.00
89.	1	LS	Payment & Performance Bond Per Lump Sum Six thousand dollars and no cents	\$ 6,000.00	\$ 6,000.00

TOTAL OF ALL BASE BID PRICES FOR Isaac Murphy Memorial Art Garden Trailhead Project (Items 1 through 86) in number figures.

Six hundred & ninety seven thousand,  
 six hundred & eighty six dollars  
 ADD Seventy cents

(\$ 697,686.70 )

**Deduct Alternates #1 through #6 (Items 90-95)**

**DEDUCT ALTERNATE NO. 1: EVERGREEN TREES, MEDIUM SHADE TREES & ORNAMENTAL TREES**

TOTAL BASE BID AMOUNT includes installation of all landscape materials.

**DEDUCT the difference amount** of all labor, tools, equipment and materials for the installation of four (4) evergreen trees, three (3) medium shade trees and three (3) ornamental trees.

90.	1	LS	Deduct Alternate #1 Evergreen, Medium Shade and Ornamental Trees Three thousand, eight hundred dollars Per Lump Sum + no cents	\$ <del>3,800.00</del>	\$ <del>3,800.00</del>
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**DEDUCT ALTERNATE NO. 2: STONE SEAT WALL (21" HT.) AT AMPHITHEATER**

**DEDUCT the difference amount** of all labor, tools, equipment and materials for the installation of approximately ninety eight (98) lineal feet of 21" height stone seat wall between the amphitheater and Midland Place.

91.	98	LF	Deduct Alternate #2 Delete Stone Seat Wall (21" Ht.) at Amphitheater Two hundred dollars + No cents Per Lineal Foot	\$ <del>200.00</del>	\$ <del>19,600.00</del>
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**DEDUCT ALTERNATE NO. 3: 4" STAINED CONCRETE IN LIEU OF PERMEABLE UNIT PAVERS**

TOTAL BASE BID AMOUNT includes installation of permeable unit pavers with paver edge restraint. For Deduct Alternate #3, in lieu of permeable unit pavers with paver edge restraint, provide all labor and materials for the installation of 4" stained concrete walkway (see detail E/L2.0).

**DEDUCT the difference amount** of all labor, tools, equipment and materials for the installation of 4" stained concrete walk in lieu of permeable unit pavers and paver edge restraint.

92.	622	SY	Deduct Alternate #3 Difference between 4" Stained Concrete Walk in lieu of Permeable Unit Pavers and Paver Edge Restraint Twenty dollars + No cents Per Square Yard	\$ <del>20.00</del>	\$ <del>12,440.00</del>
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**DEDUCT ALTERNATE NO. 4: STONE SEAT WALL (21" HT.) AT CORNER OF 3<sup>RD</sup> ST. & MIDLAND AVE.**

DEDUCT the difference amount of all labor, tools, equipment and materials for the installation of approximately TWENTY THREE (23) lineal feet of 21" height stone seat wall between the amphitheater and Midland Place.

93.	23	LF	Deduct Alternate #4 Delete 21" Ht. Stone Seat Wall at 3 <sup>rd</sup> St. & Midland Ave. <i>Two hundred &amp; twenty five</i> Per Lineal Foot <i>dollars + No curbs</i>	<del>\$225.00</del>	<del>\$5,175.00</del>
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**DEDUCT ALTERNATE NO. 5: WABASH VALLEY LITTER RECEPTACLE IN LIEU OF STONE LITTER RECEPTACLE**

TOTAL BASE BID AMOUNT includes installation of stone litter receptacle enclosure. For Deduct Alternate #5, in lieu of constructing stone litter receptacle enclosure, provide all labor and materials for the installation of Wabash Valley 32 gallon (LR305P) litter receptacle.

DEDUCT the difference amount of all labor, tools, equipment and materials for the installation of Wabash Valley 32 Gallon litter receptacle in lieu of stone litter receptacle enclosure.

94.	1	EA	Deduct Alternate #5 Difference between Wabash Valley 32 gallon litter receptacle in lieu of stone litter receptacle enclosure Per Each <i>Five hundred dollars + No curbs</i>	<del>\$500.00</del>	<del>\$500.00</del>
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**DEDUCT ALTERNATE NO. 6: PAVEMENT MILLING, RESURFACING AND RESTRIPIING OF 3<sup>RD</sup> STREET AND INTERSECTION**

TOTAL BASE BID AMOUNT includes milling, resurfacing and thermoplastic restriping of 3<sup>rd</sup> Street and intersection as indicated in construction drawings and specifications.

DEDUCT the difference amount of all labor, tools, equipment and materials for the milling, resurfacing and thermoplastic restriping of 3<sup>rd</sup> Street and intersection as indicated in construction drawings and specifications. Striping included in DA #6 includes only the striping in mill & resurface areas. All other striping not included in DA#5.

95.	1	LS	Deduct Alternate #6 Delete asphalt pavement, milling and striping in mill/resurface area Per Lump Sum <i>Eight thousand dollars and</i> <i>no curbs</i>	<del>\$8,000.00</del>	<del>\$8,000.00</del>
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Submitted by:

Bluegrass Contracting Corporation  
Firm

1075 Red Mile Road  
Address

Lexington, KY 40504  
City, State & Zip

Bid must be signed:  
(original signature)

  
Signature of Authorized Company Representative - Title

Mark W. Johnson  
Representative's Name (Typed or Printed)

(859) 231-0069  
Area Code - Phone - Fax #

bgec@windstream.net  
E-Mail Address

OFFICIAL ADDRESS:

1075 Red Mile Rd

Lexington, KY 40504

(Seal if Bid is by Corporation)

By signing this form you agree to ALL terms, conditions, and associated forms in this bid package



5. STATEMENT OF BIDDER'S QUALIFICATIONS

The following statement of the Bidder's qualifications is required to be filled in, executed, and submitted with the Proposal:

1. Name of Bidder: Bluegrass Contracting Corporation
2. Permanent Place of Business: 1075 Red Mile Rd, Lexington, KY 40504
3. When Organized: April 3, 1969
4. Where Incorporated: Kentucky
5. Construction Plant and Equipment Available for this Project:  
See Attached Corporate Resume  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Attach Separate Sheet If Necessary)

6. Financial Condition:

If specifically requested by the OWNER, the apparent low Bidder is required to submit its latest three (3) years audited financial statements to the OWNER'S Division of Central Purchasing within seven (7) calendar days following the bid opening.

7. In the event the Contract is awarded to the undersigned, surety bonds will be furnished by:

North American Specialty Insurance Company (Surety)

Signed: Paula J. Teague (Representative of Surety)  
Paula J. Teague, Atty-in-Fact

8. The following is a list of similar projects performed by the Bidder: (Attach separate sheet if necessary).

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>
See Attached Corporate Resume		

9. The Bidder has now under contract and bonded the following projects:

<u>NAME</u>	<u>LOCATION</u>	<u>CONTRACT SUM</u>
UK/FEMA Flood Mitigation	Lexington, KY	5,404,486. <sup>95</sup>
LFUCG Clays Mill Rd Imp.	Lexington, KY	3,310,582. <sup>35</sup>
LFUCG Meadows Arlington PK. 5B	Lexington, KY	738,198. <sup>75</sup>
KYTC Owen County	Owen Co, KY	841,332. <sup>04</sup>

10. List Key Bidder Personnel who will work on this Project.

<u>NAME</u>	<u>POSITION DESCRIPTION</u>	<u>NO. OF YEARS WITH BIDDER</u>
See Attached Corporate Resume		



11. DBE Participation on current bonded projects under contract:

<u>SUBCONTRACTORS</u> <u>(LIST)</u>	<u>PROJECT</u> <u>(SPECIFIC TYPE)</u>	<u>DBE</u>	<u>% of WORK</u>
<u>ProMark, Inc</u>	<u>Grades Drain w/Asph</u>	<u>✓</u>	<u>1.5%</u>
<u>Seven Seas Const</u>	<u>Sanitary Sewer/ Rd Rehab</u>	<u>✓</u>	<u>10%</u>
<u>Cedar Valley Seeding</u>	<u>Sidewalk Replacement</u>	<u>✓</u>	<u>10%</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>

(USE ADDITIONAL SHEETS IF NECESSARY)

12. We acknowledge that, if we are the apparent low Bidder, we will submit to the OWNER within 7 calendar days following the Bid Opening, a sworn statement on the OWNER'S form regarding all current work on hand and under contract, and a statement on the OWNER'S form of the experience of our officers, office management and field management personnel. Additionally, if requested by the OWNER, we will within 7 days following the request submit audited financial statements and loss history for insurance claims for the 3 most recent years (or a lesser period stipulated by the OWNER)—all in accordance with the Bid Documents.

Respectfully submitted:

Bluegrass Contracting Corporation  
(Name of Contracting Firm)

BY: Mohamud

TITLE: President

DATE June 20, 2014, 2011

6. LIST OF PROPOSED SUBCONTRACTORS

The following list of proposed subcontractors is required by the OWNER to be executed, completed and submitted with the BIDDER'S FORM OF PROPOSAL. All subcontractors are subject to approval of the Lexington-Fayette Urban County Government. Failure to submit this list completely filled out may be cause for rejection of bid.

BRANCH OF WORK-LIST EACH MAJOR ITEM Such as: Grading, bituminous paving, concrete, seeding and protection, construction staking, etc.      SUBCONTRACTOR      DBE      % of Yes/No Work

1. <u>Electric</u>	Name: <u>TEM Electric</u>	<u>Yes</u>	<u>10%</u>
	Address: <u>Louisville, KY</u>		
2. <u>landscaping</u>	Name: <u>Cedar Valley Seeding</u>	<u>Yes</u>	<u>8%</u>
	Address: <u>Paris, KY</u>		
3. _____	Name: _____	_____	_____
	Address: _____		
4. _____	Name: _____	_____	_____
	Address: _____		
5. _____	Name: _____	_____	_____
	Address: _____		
6. _____	Name: _____	_____	_____
	Address: _____		
7. _____	Name: _____	_____	_____
	Address: _____		

(Attach additional sheet(s) if necessary.)

7. LIST OF MATERIALS/ SUPPLIERS

Bidders are hereby advised that this list must be complete and submitted with the Bid.

Listing "as per plans and specifications", will not be considered as sufficient identification. Where more than one "Make or Brand" is listed for any one item, the Owner has the right to select the one to be used.

Item	Brand Name, Manufacturer and/or Supplier
1. Concrete Supplier	<u>Harcod Concrete</u>
2. Asphalt Supplier	<u>ATS</u>
3. Masonry Supplier	<u>Lexington Cut Stone</u>
4. Stone Supplier	<u>TBD</u>
5. Paver Manufacturer And Supplier	<u>Hydrastone</u>
6. Storm Sewers Manufacturer	<u>ADS</u>
7. Water Fountain/Hydrants/Lines Manufacturer	<u>TBD</u>
8. Bicycle Rack Manufacturer	<u>Forms + Surfaces</u>
9. Landscape Materials Supplier	<u>TBD</u>
10. Trash Receptacle (Alternate #2)	<u>TBD</u>

END LIST OF MATERIALS AND EQUIPMENT

8. DBE SUB-CONTRACTOR BIDDERS LIST

The Department of Transportation Federal Regulations requires that the Kentucky Transportation Cabinet provide a bidders list to be maintained in the Office of Personnel Management, Small Business Development Branch (49CFR 26:11) for each federally funded project awarded.

Project No.

List all quotes/bids received on this project.

DBE (Disadvantaged Business Enterprise) Contractors, Consultants, and Suppliers submitting quotes/bids for this project:

1. Cedar Valley
2. TEM
3. ProMark, Inc
- 4.
- 5.
- 6.
- 7.
- 8.

DBE (Disadvantaged Business Enterprise) Contractors, Consultants, and Suppliers contacted who did NOT submit quotes/bids for this project.

1. N/A
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

Non-DBE (Disadvantaged Business Enterprise) Contractors, Consultants, and Suppliers submitting quotes/bids for this project:

1. Renner Masonry
2. Angular Masonry
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

If you need additional space, please attach a separate page. If you need assistance regarding this form, please contact Melvin Bynes or Anita Hall at (502)564-3601.

9. CERTIFICATION FOR FEDERAL-AID CONTRACT

The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

1. 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 Improvements Project, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agent.
2. If any funds other than the 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.

This certification is a material representation of fact 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 Section 1352, Title 31, U.S. Code. 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.

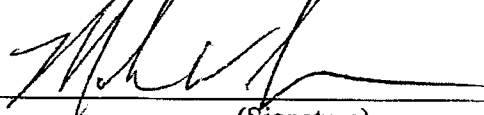
The prospective participation also agrees by submitting his or her bid proposal that he or she shall require the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such subrecipients shall certify and disclose accordingly.

Bluegrass Contracting Corporation

(Name of Individual, Co-Partnership, or Corporation submitting bid)

Mark W. Johnson  
(Name of Officer or Authorized Agent)

President  
(Title)

  
(Signature)

June 20, 2014  
(Date)

10. CERTIFICATION OF PERFORMANCE

Certification with regard to the Performance of Previous Contracts or Subcontracts subject to the Equal Opportunity Clause and the filing of Required Reports.

The bidder, hereby certifies that he has participated in previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246, and that he, filed with the Joint Reporting committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the Former President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Bluegrass Contracting Corporation  
(Name of Individual, Co-Partnership, or Corporation submitting bid)

Mark W. Johnson President  
(Name of Officer or Authorized Agent) (Title)

[Signature] June 20, 2014  
(Signature) (Date)

NOTE: The above certification is required by the Equal Employment Opportunity Regulations of the Secretary of Labor (41 CFR 60-1.7 (b) (1) ), and must be submitted by bidders and proposed subcontractors only in connection with the contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only contracts or subcontracts of \$10,000 or under are exempt.)

Currently, Standard Form 100 (EE0-1) is the only report required by the Executive Orders of their implementing regulation.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration or by the Director or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

11. CERTIFICATION OF ORGANIZATION(S)

COMMONWEALTH OF KENTUCKY

COUNTY: FAYETTE

FED PROJECT NO:

I, Mark W. Johnson, President  
(Name of officer or Authorized Agent) (Title)

under penalty of perjury under the laws of the United States, do hereby certify that, except as noted below,

Bluegrass Contracting Corporation  
(Name of Individual, Co-Partnership, or Corporation submitting bid)

any person associated therewith in the capacity of (owner, partner, director, officer, principal investigator, project director, manager, auditor, or any position involving the Administration of Federal Funds): is not currently under suspension, debarment, voluntarily exclusion, or determination of ineligibility by any federal agency; has not been suspended, debarred, voluntarily excluded or determined ineligible by any federal agency within the past 3 years; does not have a proposed debarment pending; and has not been indicted, convicted, or had a civil judgment rendered against (it) by a court of competent jurisdiction in any matter involving fraud or official misconduct within the past 3 years.

Please list below any exceptions to the foregoing, to whom it applies, initiating agency and dates of action.

Exceptions: NONE

Bluegrass Contracting Corporation  
(Name of Individual, Co-Partnership, or Corporation submitting bid)

Mark W. Johnson President  
(Name of Officer or Authorized Agent) (Title)

[Signature] June 20, 2014  
(Signature) (Date)



12. CERTIFICATION OF BID PROPOSAL / DBE

We (I) proposed to furnish all labor, equipment and material necessary to construct and/or improve the subject project in accordance with the plans, the Transportation Cabinet's Standard Specifications for Road and Bridge Construction, current edition, special provisions, notes applicable to the project as indicated herein and all addenda issued on this project subsequent to purchase of proposal.

We (I) attach a bid guaranty as provided in the special provisions in an amount not less than 5% of the total bid. We agree to execute a contract in accordance with this proposal within 15 calendar days after the receipt of the notice of award for the project.

We (I) have examined the site of proposed work, project plans, specifications, special provisions, and notes applicable to the project referred to herein. We understand that the quantities shown herein are estimated quantities subject increase or decrease as provided in the specifications.

We (I) acknowledge receipt of all addendum(s) (if applicable) and have made necessary revisions to the bid proposal. We have considered all addendum(s) in calculation of the submitted bid and applied the updated bid items, which are included.

"The bidder certifies that it has secured participation by Disadvantaged Business Enterprises (DBE) in amount of 8 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."

Bluegrass Contracting Corporation

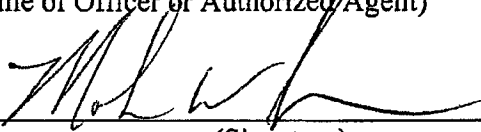
(Name of Individual, Co-Partnership, or Corporation submitting bid)

Mark W. Johnson

(Name of Officer or Authorized Agent)

President

(Title)



(Signature)

June 20 2014

(Date)

When two or more organizations bid as a joint venture, enter names of each organization and an authorized agent for each organization must sign above.

### 13. KENTUCKY TRANSPORTATION CABINET – DBE PROVISIONS

#### KENTUCKY TRANSPORTATION CABINET – DISADVANTAGED BUSINESS ENTERPRISE PROVISIONS

##### 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 Lexington-Fayette Urban County Government ("LFUCG") 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 LFUCG. To that end, the LFUCG 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 LFUCG, 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 LFUCG 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 LFUCG.

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

If a formal goal has not been designated for the contract, all contractors are expected to meet LFUCG 10% MWDBE goal, unless otherwise stated. Contractor shall also consider DBEs for subcontract work as well as for the supply of material and services needed to perform this work.

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

##### CERTIFICATION OF CONTRACT GOAL

Contractors shall include the following certification in bids for projects for which a DBE goal has been established. BIDS SUBMITTED WHICH DO NOT INCLUDE CERTIFICATION OF DBE PARTICIPATION WILL NOT BE ACCEPTED. These bids will not be considered for award by the LFUCG 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 KYTC \_\_\_ 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 Lexington-Fayette Urban County Government related to participation and Kentucky Transportation Cabinet pertaining to the DBE Program."

DBEs utilized in achieving the DBE goal must be certified and pre-qualified for the work items at the time the bid is submitted.

#### DBE PARTICIPATION PLAN

Lowest responsive bidders must submit the *DBE Plan/ Subcontractor Request*, form TC 63-35 DBE, within 10 days of the letting. This is necessary before the LFUCG Division of Central Purchasing will review and make a recommendation. The project will not be considered for award prior to submission and approval of the apparent low bidder's DBE Plan/Subcontractor Request.

The DBE Participation Plan shall include the following:

- 1 Name and address of DBE Subcontractor(s) and/or supplier(s) intended to be used in the proposed project;
- 2 Description of the work each is to perform including the work item, unit, quantity, unit price and total amount of the work to be performed by the individual DBE and the project bid number.
- 3 The dollar value of each proposed DBE subcontract and the percentage of total project contract value this represents. DBE participation may be counted as follows; a) If DBE suppliers and manufactures assume actual and contractual responsibility, the dollar value of materials to be furnished will be counted toward the goal as follows:
  - The entire expenditure paid to a DBE manufacturer;
  - 60 percent of expenditures to DBE suppliers that are not manufacturers provided the supplier is a regular dealer in the product involved. A regular dealer must be engaged in, as its principal business and in its own name, the sale of products to the public, maintain an inventory and own and operate distribution equipment; and
  - The amount of fees or commissions charged by the DBE firms for a bona fide service, such as professional, technical, consultant, or managerial services and assistance in the procurement of essential personnel, facilities, equipment, materials, supplies, delivery of materials and supplies or for furnishing bonds, or insurance, providing such fees or commissions are determined to be reasonable and customary.
- b) The dollar value of services provided by DBEs such as quality control testing, equipment repair and maintenance, engineering, staking, etc;
- c) The dollar value of joint ventures. DBE credit for joint ventures will be limited to the dollar amount of the work actually performed by the DBE in the joint venture;
- 4 Written and signed documentation of the bidder's commitment to use a DBE contractor whose participation is being utilized to meet the DBE goal; and
- 5 Written and signed confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment.

#### UPON AWARD AND BEFORE A WORK ORDER WILL BE ISSUED

Contractors must submit the signed subcontract between the contractor and the DBE contractor, the DBE's certificate of insurance, and the Required Affidavit of Bidders, Offerors, and Contractors from the DBE to the LFUCG Division of Central Purchasing. The Required Affidavit of Bidders, Offerors and Contractors is included with these bid documents and should be returned with your bid. If the DBE is a supplier of materials for the project, a signed purchase order and a Required Affidavit for Bidders, Offerors, and Contractors must be submitted to the LFUCG Division of Central Purchasing.

Changes to DBE Participation Plans or DBE substitutions must be approved by the LFUCG Division of Central Purchasing. The LFUCG 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 documentation to satisfy the LFUCG 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 bid date. DBEs utilized in achieving the DBE goal must be certified and pre-qualified for the work items at the time the bid is submitted. One complete set of this information must be received in the office of the LFUCG Division of Central Purchasing 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 LFUCG 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 Efforts documentation 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 LFUCG 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 that are pre-qualified 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 pre-qualified in the subcontracted areas, the bidder must notify the Minority Business Enterprise Liaison in the Division of Central Purchasing 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 LFUCG Division of Central Purchasing 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 with representatives from the Division of Central Purchasing. The bidder will be notified of the Division of Central Purchasing's decision within 24 hours of its decision. The bidder will have 24 hours to request reconsideration of Central Purchasing'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 Central Purchasing. 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 LFUCG Division of Central Purchasing.

The LFUCG Division of Central Purchasing 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 LFUCG Division of Central Purchasing for work performed or materials furnished

CONTRACTOR REPORTING All Contractors must report on their progress in meeting the DBE requirement on any construction contracts. 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.

Payment information that needs to be reported includes date the payment is sent to the DBE, check number, Contract ID, amount of payment and the check date. Before Final Payment is made on this contract, the

Prime Contractor will certify that all payments were made to the DBE subcontractor and/or DBE suppliers and show the documented proof.

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

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

**Photocopied payments and completed form to be submitted to:**

**Office of Civil Rights and Small  
Business Development 6<sup>th</sup> Floor  
West 200 Mero Street Frankfort, KY 40622**

**DEFAULT OR DECERTIFICATION OF THE DBE**

**If the DBE subcontractor or supplier is decertified or defaults in the performance of its work, and the overall goal cannot be credited for the uncompleted work, the prime contractor may utilize a substitute DBE or elect to fulfill the DBE goal with another DBE on a different work item. If after exerting good faith effort in accordance with the LFUCG Division of Central Purchasing 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 LFUCG Division of Central Purchasing.**

01/18/2012

**END OF SECTION**

14. NON-COLLUSION CERTIFICATION

COMMONWEALTH OF KENTUCKY

COUNTY: FAYETTE

FED PROJECT NO:

I, Mark W. Johnson, President,  
(Name of officer or Authorized Agent) (Title)

under penalty of perjury under the laws of the United States, do hereby certify that

Bluegrass Contracting Corporation  
(Name of Individual, Co-Partnership, or Corporation submitting bid)

Its agent, officers or employees have not directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken action in restraint of free competitive bidding in connection with this proposal.

Mark W. Johnson President  
(Name of Officer, or Authorized Agent) (Title)

[Signature] June 20, 2014  
(Signature) (Date)

15. STATEMENT OF EXPERIENCE

NAME OF INDIVIDUAL: See Attached Corporate Resume

POSITION/TITLE: \_\_\_\_\_

STATEMENT OF EXPERIENCE: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

NAME OF INDIVIDUAL: \_\_\_\_\_

POSITION/TITLE: \_\_\_\_\_

STATEMENT OF EXPERIENCE: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

NAME OF INDIVIDUAL: \_\_\_\_\_

POSITION/TITLE: \_\_\_\_\_

STATEMENT OF EXPERIENCE: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



NAME OF INDIVIDUAL: \_\_\_\_\_

POSITION/TITLE: \_\_\_\_\_

STATEMENT OF EXPERIENCE: \_\_\_\_\_

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NAME OF INDIVIDUAL: \_\_\_\_\_

POSITION/TITLE: \_\_\_\_\_

STATEMENT OF EXPERIENCE: \_\_\_\_\_

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NAME OF INDIVIDUAL: \_\_\_\_\_

POSITION/TITLE: \_\_\_\_\_

STATEMENT OF EXPERIENCE: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\* Include all officers, office management's, Affirmative Action officials, and field management personnel. (Attach separate sheets if necessary.)

16. EQUAL OPPORTUNITY AGREEMENT

The Law

- \* Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- \* Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and subcontractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- \* Section 503 of the Rehabilitation Act of 1973 States:  
*The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap.*
- \* Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal Contracts.
- \* Section 206 (A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:  
*The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.*

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors, and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractor may be declared ineligible for future consideration.

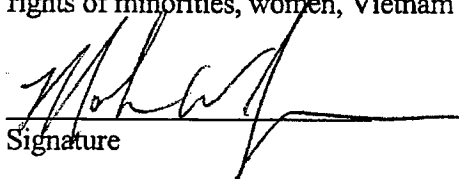
Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, Vietnam veterans, handicapped, and aged persons.

Signature

Name of Business

 Bluegrass Contracting Corporation

The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, creed, national origin, sex or age, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.

The Kentucky equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any count, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- (1) *The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) *The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) *The contract will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) *The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

KRS 45.610. Hiring minorities – Information required

- (1) *For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.*
- (2) *Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.*

KRS 45.620. Action against contractor – Hiring of minority contractor or subcontractor

- (1) *If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.*
- (2) *If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 – 45.640.*
- (3) *The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.*

KRS 45.630 Termination of existing employee not required, when

*Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.*

KRS 45.640 Minimum skills

*Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.*

It is recommended that all of the provisions quoted above to be included as special conditions in each contract. In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

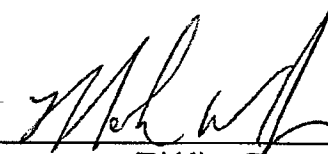
17. EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION POLICY

It is the policy of Blugrass Contracting Corporation to assure that all applicants for employment and all employees are treated on a fair and equitable basis without regard to their race, religion, sex, color, handicap, natural origin or age.

Such action shall include employment, promotion, demotion, recruitment or recruitment advertising, layoff or termination, rates of pay and other forms of compensation, and selection for training, whether apprenticeship and/or on-the-job-training.

Furthermore, this company agrees to make special recruitment efforts to hire the protected class whenever feasible. This company also agrees to adhere to all applicable federal, state, and local laws relating to Equal Employment Opportunity for all individuals.

Bonny A. Stewart has been appointed Equal Employment Compliance (EEOC) Officer and shall be available for counseling, answering of questions in regards to this company policy, and to hear any complaints of discrimination. The EEOC Officer may be reached by calling (859) 231-0069

Signature:   
(Bidding Contractor)

Title: President

Date: June 20, 2014

18. WORKFORCE ANALYSIS FORM

Name of Organization: Blossgrass Contracting Corporation Date: 6/20/14

Categories	Total	White		Black		Other		Total	
		M	F	M	F	M	F	M	F
Administrators	1	1							
Professionals	1	1							
Superintendents	3	3							
Supervisors									
Foremen	12	12							
Technicians									
Protective Service									
Para-Professionals									
Office/Clerical	3		3						
Skilled Craft	42	36	1	3		2			
Service/Maintenance	1	1							
Total:	63	54	4	3		2			

Prepared By: Benny A. Stewart

**19. EVIDENCE OF INSURABILITY**

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT CONSTRUCTION PROJECT  
(Use separate form for each Agency or Brokerage agreeing to provide coverage)

Names Insured: Blugrass Contracting Corporation Employee ID: 61-0679440  
 Address: 1075 Red Mill Rd, Lexington, KY 40504 Phone: (859) 234-0069

Project to be insured: Isaac Murphy Memorial Art Garden

In lieu of obtaining certificates of insurance at this time, the undersigned agrees to provide the above Named Insured with the minimum coverage listed below. These are outlined in the Insurance and Risk Management of Part V (Special Conditions), including all requirements, and conditions:

Section Items	Coverage	Minimum Limits and Policy Requirements	Limits Provided To Insured	Name of Insurer	A.M. Best's Code	Rating
SC-3, Section 2, Part 4.1 - see provisions	CGL	\$1,000,000 per occ. And \$2,000,000 aggregate	\$ 1,000,000 Occ 2,000,000 Agg	Westfield Insurance Company	002382	A
SC-3, Section 2, Part 4.1 - see provisions	AUTO	\$2,000,000/per occ.	\$ 1,000,000 CSL	Westfield Insurance Company	002382	A
SC-3, Section 2, Part 4.1 - see provisions	WC	Statutory w /endorsement as noted	\$ Statutory EL - \$4,000,000	KY AGC SIF	055002	A-

Section 2 includes required provisions, statements regarding insurance requirements, and the undersigned agrees to abide by all provisions for the coverage's checked above unless stated otherwise when submitting.

USI Insurance Services, LLC  
 Agency or Brokerage: Walter M. Zolla  
 Name of Authorized Representative: Vice President  
 Street Address: 950 Breckenridge Lane, Suite 50  
 City: Louisville KY 40207 State: Zip  
 Telephone Number: 502/815-5200  
 Authorized Signature: June 19, 2014  
 Date: June 19, 2014

NOTE: Authorized signatures may be the agent's if agent has placed insurance through an agency agreement with the insurer. If insurance is brokered, authorized signature must be that of authorized representative of insurer.

20. DEBARRED FIRMS

PROJECT NAME: Isaac Murphy Act Garden Trailhead

BID NUMBER: 106-2014

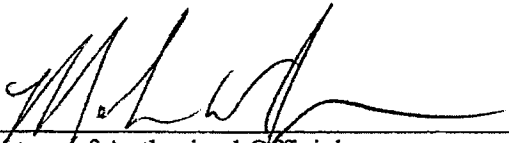
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
LEXINGTON, KY

All prime Contractors shall certify that Subcontractors have not and will not be awarded to any firms that has been debarred for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 As Amended, Executive Order 11246 As Amended or any other Federal Law.

All bidders shall complete the attached certification in duplicate and submit both copies to the Owner with the bid proposal. The Owner (grantee) shall transmit one copy to the Lexington-Fayette Urban County Government, Division of Community Development, within fourteen (14) days after bid opening.

The undersigned hereby certifies that the firm of Bluegrass Contracting Corp. has not and will not award a subcontract, in connection with any contract award to it as the result of this bid, to any firm that has been debarred for noncompliance with the Federal labor Standards, Title VI of the Civil Rights Act of 1964, Executive Order 11246 as amended or any Federal Law.

Bluegrass Contracting Corporation  
Name of Firm Submitting Bid

  
Signature of Authorized Official

President  
Title

June 20, 2014  
Date



**21. DEBARMENT CERTIFICATION**

All contractors/subcontractors shall complete the following certification and submit it with the bid proposal.

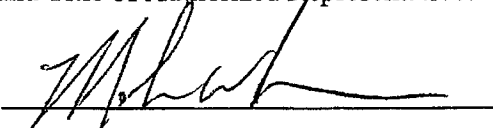
The contractor/subcontractor certifies in accordance with Executive Order 12549 (Debarment and Suspension 2/18/86) that to the best of its knowledge and belief, that it and its principals:

- 1) Are not presently debarred, suspended, proposed for debarment, declared negligible, or voluntarily excluded from covered transactions or contract by any Federal department or agency for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 as amended, Executive Order 11246 as amended or any other Federal law;
  - a) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - b) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(a) of this certification; and
  - c) Have not within a three year period preceding this bid has one or more public (Federal, State or local) transactions or contracts terminated for cause or default.
- 2) Where the contractor is unable to certify to any of the statements in this certification, such prospective contractors shall attach an explanation to this certification form.

Firm Name: Bluegrass Contracting Corporation

Project: 106-2014 Isaac Murphy Memorial  
Art Garden Trailhead

Printed Name and Title of Authorized Representative: Mark W. Johnson, President

Signature: 

Date: June 20, 2014

22. PROVISIONS RELATIVE TO SENATE BILL 258 (1994)

During the performance of the contract, the contractor agrees to comply with the applicable provisions of:

1. KRS 136 Corporation and Utility Tax
2. KRS 139 Sales and Use Taxes
3. KRS 141 Income Taxes
4. KRS 337 Wages and Hours
5. KRS 338 Occupational Safety and Health of Employees
6. KRS 341 Unemployment Compensation
7. KRS 342 Workers Compensation

Any final determinations of a violation by the contractor within the previous (5) years pursuant to the applicable statutes above are revealed as follows:

NONE

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23. 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:

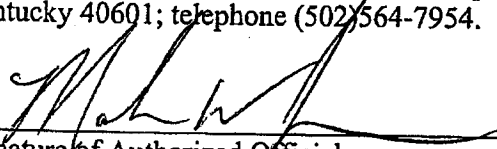
- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

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.



\_\_\_\_\_  
Signature of Authorized Official

President

\_\_\_\_\_  
Title

June 20, 2014

\_\_\_\_\_  
Date

**PART IV**  
**GENERAL CONDITIONS**  
**TABLE OF CONTENTS**

Article Number	Title
1.	DEFINITIONS
2.	PRELIMINARY MATTERS
3.	CONTRACT DOCUMENTS: INTENT, CONFLICTS, AMENDING AND REUSE
4.	AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS
5.	CONTRACTOR'S RESPONSIBILITIES
6.	OTHER WORK
7.	OWNER'S RESPONSIBILITIES
8.	ENGINEER'S STATUS DURING CONSTRUCTION
9.	CHANGES IN THE WORK
10.	CHANGE OF CONTRACT PRICE
11.	CHANGE OF CONTRACT TIME
12.	WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK
13.	PAYMENTS TO CONTRACTOR AND COMPLETION
14.	SUSPENSION OF WORK AND TERMINATION
15.	MISCELLANEOUS

## DETAILED TABLE OF CONTENTS OF GENERAL CONDITIONS

1. Definitions
2. Preliminary Matters
  - 2.1 Delivery of Bonds
  - 2.2 Copies of Documents
  - 2.3 Commencement of Contract Time; Notice to Proceed
  - 2.4 Starting the Project
  - 2.5 Before Starting Construction
  - 2.6 Submittal of Schedules
  - 2.7 Preconstruction Conference
  - 2.8 Finalizing Schedules
3. Contract Documents, Intent, Conflicts, Amending, and Reuse
  - 3.1 General
  - 3.2 Intent
  - 3.3 Conflicts
  - 3.4 Amending and Supplementing Contract Documents
  - 3.5 Reuse of Documents
4. Availability of Lands, Physical Conditions, Reference Points
  - 4.1 Availability of Lands
  - 4.2 Physical Conditions
  - 4.3 Physical Conditions - Underground Facilities
  - 4.4 Reference Points
5. CONTRACTOR'S Responsibilities
  - 5.1 Supervision
  - 5.2 Superintendence
  - 5.3 Labor
  - 5.4 Start-Up and Completion of Work
  - 5.5 Materials and Equipment
  - 5.6 Adjusting Progress Schedule
  - 5.7 Substitutes or "Or-Equal" Items
  - 5.8 Subcontractors, Suppliers and Others
  - 5.9 Patent Fees and Royalties
  - 5.10 Permits
  - 5.11 Laws and Regulations
  - 5.12 Taxes

- 5.13 Use of Premises
- 5.14 Record Drawings
- 5.15 Shop Drawings and Samples
- 5.16 Continuing the Work
- 5.17 Erosion and Sediment Control
- 6. Other Work
  - 6.1 Related Work at Site
  - 6.2 Other Contractors or Utility Owners
  - 6.3 Delays Caused By Others
  - 6.4 Coordination
- 7. OWNER'S Responsibilities
  - 7.1 Communications
  - 7.2 Data and Payments
  - 7.3 Lands, Easements, and Surveys
  - 7.4 Change Orders
  - 7.5 Inspections, Tests, and Approvals
  - 7.6 Stop or Suspend Work
- 8. ENGINEER'S Status During Construction
  - 8.1 OWNER'S Representative
  - 8.2 Visits to Site
  - 8.3 Project Representation
  - 8.4 Clarification and Interpretations
  - 8.5 Authorized Variations in Work
  - 8.6 Rejecting Defective Work
  - 8.7 Shop Drawings
  - 8.8 Change Orders
  - 8.9 Payments
  - 8.10 Determinations for Unit Prices
  - 8.11 Decisions on Disputes
  - 8.12 Limitations on ENGINEER'S Responsibilities
- 9. Changes in the Work
  - 9.1 OWNER May Order Changes
  - 9.2 Claims
  - 9.3 Work Not in Contract Documents
  - 9.4 Change Orders
  - 9.5 Notice of Change

10. Change of Contract Price
  - 10.1 Total Compensation
  - 10.2 Claim for Increase or Decrease in Price
  - 10.3 Value of Work
  - 10.4 Cost of the Work
  - 10.5 Not to Be Included in Cost of the Work
  - 10.6 CONTRACTOR'S Fee
  - 10.7 Itemized Cost Breakdown
  - 10.8 Cash Allowance
  - 10.9 Unit Price Work
  
11. Change of Contract Time
  - 11.1 Change Order
  - 11.2 Justification for Time Extension
  - 11.3 Time Limits
  
12. Warranty and Guarantee; Tests and Inspections; Correction, Removal or Acceptance of Defective Work
  - 12.1 Warranty and Guarantee
  - 12.2 Access to Work
  - 12.3 Tests and Inspections
  - 12.4 OWNER May Stop Work
  - 12.5 Correction or Removal of Defective Work
  - 12.6 One Year Correction Period
  - 12.7 Acceptance of Defective work
  - 12.8 Owner May Correct Defective Work
  
13. Payments to CONTRACTOR and Completion
  - 13.1 Schedule of Values
  - 13.2 Application for Progress Payments
  - 13.3 CONTRACTOR'S Warranty of Title
  - 13.4 Review of Application for Progress Payments
  - 13.5 Partial Utilization
  - 13.6 Final Inspection
  - 13.7 Final Application for Payment
  - 13.8 Final Payment and Acceptance
  - 13.9 CONTRACTOR'S Continuing Obligation
  - 13.10 Waiver of Claims

14. Suspension of Work and Termination

- 14.1 OWNER May Suspend Work
- 14.2 OWNER May Terminate
- 14.3 CONTRACTOR'S Services Terminated
- 14.4 Payment After Termination
- 14.5 CONTRACTOR May Stop or Terminate

15. Miscellaneous

- 15.1 Claims for Injury or Damage
- 15.2 Non-Discrimination in Employment
- 15.3 Temporary Street Closing or Blockage
- 15.4 Percentage of Work Performed by Prime CONTRACTOR
- 15.5 Clean-up
- 15.6 General
- 15.7 Debris Disposal

END OF SECTION



**PART IV**  
**GENERAL CONDITIONS**

**1. DEFINITIONS**

Wherever used in these General Conditions or the other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural thereof.

**1.1 Addenda**

Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bid Documents or the Contract Documents.

**1.2 Agreement**

The written agreement between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

**1.3 Application for Payment**

The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the Contract Documents.

**1.4 Bid**

The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

**1.5 Bidder**

An individual, partnership, or corporation, who submit a Bid for a prime contract with the OWNER, for the Work described in the proposed Contract Documents.

**1.6 Bonds**

Bid, performance and payment bonds and other instruments of security.

**1.7 Calendar Day**

A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

**1.8 Change Order**

A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

**1.9 Contract Documents**

The Advertisement for Bidders, Information for Bidders, Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Special Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements.

**1.10 Contract Unit Price**

The monies payable by OWNER to CONTRACTOR under the Contract Documents as stated in the Agreement. Unit Prices are to be firm for the term of this Contract.

**1.11 Contract Time**

The number of consecutive calendar days between the date of issuance of the Notice to Proceed and the contract completion date.

**1.12 CONTRACTOR**

The person, firm or corporation with whom OWNER has entered into the Agreement.

**1.13 Defective**

An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER'S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER).

**1.13 Drawings**

The drawings which show the character and scope of the Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents.

**1.15 Effective Date of the Agreement**

The date indicated in the Agreement on which it becomes effective.

**1.16 ENGINEER**

The authorized representative of the responsible division within the Lexington-Fayette Urban County Government.

**1.17 Field Order**

A documented order issued by ENGINEER which orders minor changes in the Work, but which does not involve a change in the Contract Price or the Contract Time.

**1.18 Giving Notice**

Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

**1.19 Laws and Regulations**

Laws, rules, regulations, ordinances, codes and/or orders.

**1.20 Notice of Award**

The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

**1.21 Notice to Proceed**

A written notice given by OWNER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR'S obligations under the Contract Documents.

**1.22 OWNER**

The Lexington-Fayette Urban County Government.

**1.23 Partial Utilization**

Placing a portion of the Work in service for the purpose for which it is intended (or related purpose) before reaching Completion for all the Work.

**1.24 Project**

The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

**1.25 Inspector**

The authorized representative of the ENGINEER who is assigned to the site or any part thereof.

**1.26 Shop Drawings**

All drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions,

diagrams and other information prepared by a Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

**1.27 Specifications**

Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

**1.28 Standard Specifications**

The "Standard Specifications for Road and Bridge Construction", Transportation Cabinet, Department of Highways, Commonwealth of Kentucky, current edition. MUTCD shall refer to the "Manual of Uniform Traffic Control Devices".

**1.29 Subcontractor**

An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

**1.30 Special Conditions**

The part of the Contract Documents which amends or supplements these General Conditions.

**1.31 Supplier**

A manufacturer, fabricator, supplier, distributor, materialman or vendor.

**1.32 Underground Facilities**

All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

**1.33 Unit Price Work**

Work to be paid for on the basis of unit prices.

**1.34 Work**

The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

**1.35 Time Period**

When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

## **2. PRELIMINARY MATTERS**

### **2.1 Delivery of Bonds**

When the CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER, such Bonds, Insurance Certificate, and Power of Attorney as CONTRACTOR may be required to furnish.

### **2.2 Copies of Documents**

Owner shall furnish to CONTRACTOR up to three copies (unless otherwise specified in the Special Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

### **2.3 Commencement of Contract Time; Notice to Proceed**

The Contract Time will commence to run on the day specified in the Notice to Proceed.

### **2.4 Starting the Project**

CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run.

### **2.5 Before Starting Construction**

Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents, unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

### **2.6 Submittal of Schedules**

Within ten days after the effective date of the Agreement (unless otherwise specified) CONTRACTOR shall submit to ENGINEER for review:

**2.6.1** an estimated progress schedule indicating the starting and completion dates of the various stages of the Work;

**2.6.2** a preliminary schedule of Shop Drawing submissions; and

**2.6.3** a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

**2.7 Preconstruction Conference**

Before CONTRACTOR starts the Work at the proposed site, a conference attended by CONTRACTOR, ENGINEER, and other appropriate parties will be held to discuss the following issues: (1) The scheduling of the Work to be completed; (2) The procedures for handling shop drawings and other submittals; (3) The processing of applications for payment; (4) The establishment of an understanding among the involved parties in regard to the proposed project; and (5) The establishment of procedures for effectively implementing the DBE participation.

**2.8 Finalizing Schedules**

At least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be acceptable to ENGINEER as providing orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility thereof. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

**3. CONTRACT DOCUMENTS: INTENT, CONFLICTS, AMENDING AND REUSE**

**3.1 General**

The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

### **3.2 Intent**

It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such words shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 8.4.

### **3.3 Conflicts**

If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the Contract Documents, CONTRACTOR shall so report to ENGINEER in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from ENGINEER; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the Contract Documents unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

In resolving such conflicts, errors and discrepancies, the documents shall be given precedence in the following order:

1. Agreement
2. Field and Change Orders
3. Addenda
4. Special Conditions
5. Instruction to Bidders
6. General Conditions
7. Specifications and Drawings

Figure dimension on drawings shall govern over scale dimensions and detailed Drawings shall govern over general Drawings.

**3.4 Amending and Supplementing Contract Documents**

The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof by means of a Change Order or a Field Order. Contract Price and Contract Time may only be changed by a Change Order.

**3.5 Reuse of Documents**

Neither CONTRACTOR nor any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaptation by ENGINEER.

**4. AVAILABILITY OF LANDS; PHYSICAL CONDITIONS, REFERENCE POINTS**

**4.1 Availability of Lands**

OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR believes that any delay in OWNER'S furnishing these lands, rights-of-way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefor as provided in Article 11. ENGINEER shall determine if the claim is legitimate or not. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

**4.2 Physical Conditions**

**4.2.1 Explorations and Reports**

Reference is made to the Special Conditions for identification of those reports of explorations and tests of subsurface conditions at the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations or opinions contained therein or for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site.



4.2.2 Existing Structures

Reference is made to the Special Conditions for identification of those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities referred to in paragraph 4.3 which are at or contiguous to the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.

4.2.3 Report of Differing Conditions

If CONTRACTOR believes that:

4.2.3.1 any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2 any physical conditions uncovered or revealed at the site differ materially from that indicated, reflected or referred to in the Contract Documents,

CONTRACTOR shall, promptly after becoming aware thereof and before performing and WORK in connection therewith (except in an emergency) notify OWNER and ENGINEER in writing about the inaccuracy or difference.

4.2.4 ENGINEER'S Review

Engineer will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise CONTRACTOR of ENGINEER'S findings and conclusions.

4.2.5 Possible Document Change

If ENGINEER concludes that there is a material error in the Contract Documents or that because of newly discovered conditions a change in the Contract Documents is required, a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6 Possible Price and Time Adjustments

In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extent that they are attributable to any such inaccuracy or difference.

### 4.3 Physical Conditions-Underground Facilities

#### 4.3.1 Shown or Indicated

The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such underground facilities or by others. Unless it is otherwise expressly provided in the Special Conditions:

4.3.1.1 OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and,

4.3.1.2 CONTRACTOR shall have full responsibility for reviewing and checking all such information and data; for locating all underground facilities shown or indicated in the Contract Documents; for coordination of the Work with the owners of such underground facilities during construction; and for the safety and protection thereof and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

#### 4.3.2 Not Shown or Indicated

If an underground facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work affected thereby (except in an emergency), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the underground facility to determine the extent to which the Contract Documents should be modified to reflect and document the consequences of the existence of the Underground Facility, and the Contract Documents will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such underground facility. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any underground facility that was not shown or indicated in the Contract Documents and which CONTRACTOR could not reasonably have been expected to be aware of.

### 4.4 Reference Points

OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER'S judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified), shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER

whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by a Registered Land Surveyor.

## **5. CONTRACTOR'S RESPONSIBILITIES**

### **5.1 Supervision**

CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall assure that all CONTRACTOR personnel (including subcontractors, etc.) conduct themselves in a courteous and respectful manner toward the ENGINEER and the general public. Failure to comply with this condition of the Contract will result in immediate suspension of the Work. Following a review by the Commissioner of Public Works, the Contract may be terminated (see GC section 14). CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence or procedure of construction which is indicated in and required by the Contract Documents. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the Contract Documents.

### **5.2 Superintendence**

CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

### **5.3 Labor**

CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent given after prior written notice to ENGINEER.

### **5.4 Start-Up and Completion of Work**

Unless otherwise specified, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction

equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

## **5.5 Materials and Equipment**

All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable supplier except as otherwise provided in the Contract Documents; but no provision of any such instructions will be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

### **5.5.1 Not Clearly Specified or Indicated**

In all instances where materials specified are obtainable in different sizes, weights, trade grades, qualities or finishes, etc., whose weights, trade grades, qualities or finishes, etc., are not clearly specified or indicated on the Drawings, the CONTRACTOR shall notify the ENGINEER of all such instances at least five (5) days in advance of receiving the proposals. The Engineer will then determine which size, weight, trade grade, quality, finish, etc., is required.

### **5.5.2 Coordination of Work**

The CONTRACTOR shall see that for his own Work and for the work of each subcontractor, proper templates and patterns necessary for the coordination of the various parts of the Work are prepared. The CONTRACTOR shall furnish or require the Subcontractor to furnish such duplicates as will enable the Subcontractors to fit together and execute fully their respective portions of the Work.

## **5.6 Adjusting Progress Schedule**

CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.8) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the Contract Documents applicable thereto.

## **5.7 Substitutes or "Or-Equal" Items**

### **5.7.1 General**

Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by OWNER/ENGINEER if sufficient information is submitted by CONTRACTOR to allow OWNER/ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by OWNER/ENGINEER will include the following. Requests for review of substitute items of material and equipment will not be accepted by OWNER/ENGINEER from anyone, other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to OWNER/ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which shall be considered by OWNER/ENGINEER in evaluating the proposed substitute. OWNER/ENGINEER may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

#### 5.7.2 Substitutes

If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to OWNER/ENGINEER, if CONTRACTOR submits sufficient information to allow OWNER/ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the Contract Documents. The procedure for review by OWNER/ENGINEER will be similar to that provided in paragraph 5.7.1 as applied by OWNER/ENGINEER.

5.7.3 OWNER/ENGINEER'S Approval

OWNER/ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. OWNER/ENGINEER will be the sole judge of acceptability, and no substitute will be ordered, installed or utilized without OWNER/ENGINEER'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute. OWNER/ENGINEER will record time required by OWNER/ENGINEER and OWNER/ENGINEER'S consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not OWNER/ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of OWNER/ENGINEER and OWNER/ENGINEER'S consultants for evaluating each proposed substitute.

**5.8 Subcontractors, Suppliers, and Others**

5.8.1 Acceptable to ENGINEER

CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 5.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

5.8.2 Objection After Due Investigation

If the Contract Documents require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER and if CONTRACTOR has submitted a list thereof, OWNER'S or ENGINEER'S acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

5.8.3 Contractor Responsible for Acts of Subcontractors

The CONTRACTOR shall perform on the site, and with its own organization, work equivalent to at least fifty (50) percent of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the CONTRACTOR requests a reduction and the Urban County Engineer determines that the reduction would be to the advantage of the Urban County Government.

The CONTRACTOR shall, at the time he submits his proposal for the Contract, notify the OWNER in writing of the names of Subcontractors proposed for the Work. He shall not employ any Subcontractor without the prior written approval of the OWNER.

CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the Contract Documents shall create any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

5.8.4 Division of Specifications

The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

5.8.5 Agreement Between Contractor and Subcontractors

All Work performed for CONTRACTOR by a Subcontractor will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor which specifically binds the Subcontractor to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER.

5.8.6 Statements and Comments by CONTRACTOR

Neither the CONTRACTOR, his employees, nor his subcontractors shall at any time make any statement or comment as to the project scope, nature, intention, design, or construction

method to any third party or parties without the explicit written consent of the OWNER.

Any third party requesting such information shall be referred to the OWNER or his representative.

Should there be any change from the original intent of the project as a result of any statement or comment by the contractor, his employees or subcontractors, contractor shall be held liable for any change in the scope, nature, design, or construction method and shall bear the full cost for the previously mentioned changes.

**5.9 Patent Fees and Royalties**

CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others.

**5.10 Permits**

Unless otherwise provided in the Special conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are no Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

**5.11 Laws and Regulations**

5.11.1 CONTRACTOR to Comply

CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR'S compliance with any Laws and Regulations.

5.11.2 Specifications and Drawings at Variance

If CONTRACTOR observes that the Specifications or Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, and any necessary changes will be authorized by one of the methods indicated in paragraph 3.4. If



CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws, or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to make certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

Any party, firm or individual submitting a proposal pursuant to invitation must have paid all taxes owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, and must maintain a "current" status in regard to those taxes throughout the Contract. If applicable, business must be licensed in Fayette County.

**5.12 Taxes**

CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work. Any party, firm or individual submitting a proposal pursuant to invitation must have paid all taxes owed to the Lexington-Fayette Urban County Government at the time the proposal is submitted, and must maintain a "current" status in regard to those taxes throughout the Contract. If applicable, business must be licensed in Fayette County.

**5.13 Use of Premises**

**5.13.1 Project Site**

CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the staging areas or work site areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any such other party against OWNER or ENGINEER

to the extent based on a claim arising out of CONTRACTOR'S performance of the Work.

5.13.2 Clean UP

During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

5.13.1 Loading of Structures

CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

**5.14 Record Drawings**

CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Change Orders, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, samples and Shop Drawings will be delivered to ENGINEER for OWNER.

**5.15 Shop Drawings and Samples**

5.15.1 Shop Drawing Submittals

After checking and verifying all field measurements and after complying with applicable procedures specified, CONTRACTOR shall submit to ENGINEER for review and approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.8), or for other appropriate action if so indicated in the Special Conditions, five copies (unless otherwise specified) of all Shop Drawings, which will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as ENGINEER may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to enable ENGINEER to review the information as required.

5.15.2 Sample Submittals

CONTRACTOR shall also submit to ENGINEER for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

5.15.3 Review by CONTRACTOR

Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the Contract Documents.

5.15.4 Notice of Variation

At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the Contract Documents, and, in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ENGINEER for review and approval of each such variation.

5.15.5 ENGINEER'S Approval

ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, but ENGINEER'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit, as required, new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

5.15.6 Responsibility for Errors and Omissions

ENGINEER'S review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER'S attention to each such variation at the time of submission as required by paragraph 5.15.4 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 5.15.3.

**5.15.7 Cost of Related Work**

Where a Shop or sample is required by the Specifications, any related Work performed prior to ENGINEER'S review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

**5.16 Continuing the Work**

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolutions of any disputes or disagreements, except as permitted by paragraph 14.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

**5.17 Erosion and Sediment Control**

**5.17.1 General Environmental Requirements**

The CONTRACTOR and Subcontractors performing work on projects on behalf of the OWNER shall comply with all applicable federal, state, and local environmental regulations and all requirements and conditions set forth in "special" permits including but not limited to Corp of Engineers 404 permits, 401 Water Quality Certifications, Stream Crossing and Floodplain Encroachment Permits.

Any fines or penalties resulting from the failure to comply with the terms of the federal, state or local permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

**5.17.2 Stormwater Pollution Prevention**

A. The CONTRACTOR shall exercise due care to prevent or minimize any damage to any stream or wetland from pollution by debris, sediment or other material. The operation of equipment and/or materials in a jurisdictional wetland is expressly prohibited. Water that has been used for washing or processing, or that contains oils, sediments or other pollutants shall not be discharged from the job site. Such waters shall be collected and properly disposed of by the CONTRACTOR in accordance with applicable local, state and federal law.

B. The CONTRACTOR is solely responsible for securing all required state and local permits associated with stormwater discharges from the project including, but not necessarily limited to the KY Notice of Intent to Disturb (NOI) for Coverage of Storm Water Discharges Associated with Construction Activities under the KPDES Storm Water General Permit KYR100000 and the LFUCG, Land Disturbance Permit. Permit application preparation and all required documentation are the responsibility of the CONTRACTOR. The CONTRACTOR is solely responsible for maintaining compliance with the stormwater pollution prevention plan or erosion and sediment control plan and ensuring the following:

- a. That the Stormwater Pollution Prevention Plan (SWPPP) or erosion control plan is current and available for review on site;
- b. That any and all stormwater inspection reports required by the permit are conducted by qualified personnel and are available for review onsite; and
- c. That all best management practices (BMPs) are adequately maintained and effective at controlling erosion and preventing sediment from leaving the site.

C. The CONTRACTOR shall provide the necessary equipment and personnel to perform any and all emergency measures that may be required to contain any spillage or leakage and to remove materials, soils or liquids that become contaminated. The collected spill material shall be properly disposed at the CONTRACTOR's expense.

D. Upon completion of the work and with the concurrence of the OWNER, the CONTRACTOR must file a Notice of Termination (NOT) of Coverage Under the KPDES General Permit for Storm Water Discharges Associated with Construction Activity with the appropriate local and state authorities.

E. Any fines or penalties resulting from the failure to comply with the terms of the state or local stormwater permits or perform necessary corrective action are solely the obligation of the CONTRACTOR.

## 6. OTHER WORK

### 6.1 Related Work at Site

OWNER may perform other work related to the Project at the site by OWNER'S own forces, have other work performed by utility owners or let other direct contracts therefor which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written

notice thereof will be given to CONTRACTOR prior to starting any such other work; and, if such performance will involve additional expense to CONTRACTOR or requires additional time, a Change Order to the Contract will be negotiated.

**6.2 Other Contractors or Utility Owners**

CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

**6.3 Delays Caused by Others**

If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure so to report will constitute an acceptance of the other work as fit and proper for integration with CONTRACTOR'S Work except for latent or non-apparent defects and deficiencies in the other work.

**6.4 Coordination**

If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Special Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Special Conditions.

**7. OWNER'S RESPONSIBILITIES**

**7.1 Communications**

OWNER shall issue all communications to CONTRACTOR through ENGINEER.

**7.2 Data and Payments**

OWNER shall furnish the data required of OWNER under the Contract Documents promptly after they are due.

**7.3 Lands, Easements, and Surveys**

OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and in existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications.

**7.4 Change Orders**

OWNER is obligated to execute Change Orders as indicated in paragraph 9.4.

**7.5 Inspections, Tests and Approvals**

OWNER'S responsibility in respect to certain inspections, tests and approvals is set forth in paragraph 13.3.

**7.6 Stop or Suspend Work**

In connection with OWNER'S right to stop Work or suspend Work, see paragraph 12.4 and 14.1 Paragraph 14.2 deals with OWNER'S rights to terminate services of CONTRACTOR under certain circumstances.

**8. ENGINEER'S STATUS DURING CONSTRUCTION**

**8.1 OWNER'S Representative**

ENGINEER will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER'S representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and ENGINEER.

**8.2 Visits to Site**

ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform to the Contract Documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

**8.3 Project Representation**

ENGINEER will provide an Inspector to assist ENGINEER in observing the performance of the Work. If OWNER designates another agent to represent OWNER at the site who is not ENGINEER'S agent or employee, the duties, responsibilities and limitations of authority of such other person will be as provided in the Special Conditions.

**8.4 Clarifications and Interpretations**

ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

**8.5 Authorized Variations in Work**

ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Time and are consistent with the overall intent of the Contract Documents. These may be accomplished by a Field Order.

**8.6 Rejecting Defective Work**

ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 12.3, whether or not the Work is fabricated, installed or completed.

**8.7 Shop Drawings**

In connection with ENGINEER'S responsibility for Shop Drawings and samples, see paragraphs 5.15.1 through 5.16 inclusive.

**8.8 Change Orders**

In connection with ENGINEER'S responsibilities as to Change Orders, see Articles 10, 11 and 12.

**8.9 Payments**

In connection with ENGINEER'S responsibilities with respect to Applications for Payment, etc., see Article 13.

**8.10 Determinations for Unit Prices**

ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR.

ENGINEER will review with CONTRACTOR ENGINEER'S preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise).



### **8.11 Decision on Disputes**

ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and claims under Articles 10 and 11 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER within sixty days after such occurrence unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim.

### **8.12 Limitations on Engineer's Responsibilities**

#### **8.12.1 CONTRACTOR, Supplier, or Surety**

Neither ENGINEER'S authority to act under this Article 8 or elsewhere in the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

#### **8.12.2 To Evaluate the Work**

Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives or like "effect" or "import" are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate the Work for compliance with the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 8.12.3 or 8.12.4.

#### **8.12.3 CONTRACTOR'S Means, Methods, Etc.**

ENGINEER will not be responsible for CONTRACTOR'S means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR'S failure to perform or furnish the Work in accordance with the Contract Documents.

8.12.4 Acts of Omissions of CONTRACTOR

ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9. **CHANGES IN THE WORK**

9.1 **OWNER May Order Change**

Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized by a Change Order. Upon receipt of such notice, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

9.2 **Claims**

Claims for an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Change Order will be settled as provided for in Article 10 or Article 11.

9.3 **Work Not in Contract Documents**

CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraph 3.4, except in the case of an emergency and except in the case of uncovering Work as provided in paragraph 12.3.4.

9.4 **Change Orders**

OWNER and CONTRACTOR shall execute appropriate Change Orders covering:

9.4.1 changes in the Work which are ordered by OWNER pursuant to paragraph 9.1, are required because of acceptance of defective Work under paragraph 12.7 or corrective defective Work under paragraph 12.8, or are agreed to by the parties;

9.4.2 changes in the Contract Price or Contract Time which are agreed to by the parties; and

9.4.3 changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 8.11; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and REGULATIONS, but during any such appeal, CONTRACTOR shall carry

on the Work and adhere to the progress schedule as provided in paragraph 5.16.

**9.5 Notice of Change**

If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be adjusted accordingly.

**10. CHANGE OF CONTRACT PRICE**

**10.1 Total Compensation**

The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

**10.2 Claim for Increase or Decrease in Price**

The Contract Price may only be changed by a Change Order. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by CONTRACTOR'S written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of the occurrence of said event.

**10.3 Value of Work**

The value of any Work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

**10.3.1 Unit Prices**

Where the Work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved (subject to the provisions of paragraphs 10.9.1. through 10.9.3, inclusive).

**10.3.2 Lump Sum**

By mutual acceptance of a lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 10.6.2.1).

10.3.3 Cost Plus Fee

On the basis of the Cost of the Work (determined as provided in paragraphs 10.4 and 10.5) plus a CONTRACTOR'S fee for overhead and profit (determined as provided in paragraphs 10.6 and 10.7).

**10.4 Cost of the Work**

The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project; shall include only the following items; and shall not include any of the costs itemized in paragraph 10.5:

10.4.1 Payroll Costs

Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' or workmen's compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. Such employees shall include superintendents and foremen at the site. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

10.4.2 Materials and Equipment Costs

Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

10.4.3 Subcontractor Costs

Payments made by CONTRACTOR to the Subcontractors for Work performed by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from Subcontractors acceptable to CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of ENGINEER,

which bids will be accepted. If a subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a Fee, the Subcontractor's Cost of the Work shall be determined in the same manner as CONTRACTOR'S Cost of the Work. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

#### 10.4.4 Special Consultant Costs

Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

#### 10.4.5 Supplemental Costs

10.4.5.1 The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR'S employees incurred in discharge of duties connected with the Work.

10.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

10.4.5.3 Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal shall be in accordance with terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

10.4.5.4 Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

10.4.5.5 Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of

them may be liable, and royalty payments and fees for permits and licenses.

10.4.5.6 Losses and damages (and related expenses), not compensated by insurance or otherwise, to the Work or otherwise sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR'S fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid a fee proportionate to that stated in paragraph 10.6.2 for services.

10.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

10.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

10.4.5.9 Cost of premiums for additional Bonds and insurance required because of changes in the Work and premiums for property insurance coverage within the limits of the deductible amounts established by OWNER.

**10.5 Not to Be Included in Cost of the Work**

The term Cost of the Work shall not include any of the following:

10.5.1 Costs of Officers and Executives

Payroll costs and other compensation of CONTRACTOR'S officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR'S principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 10.4.1 or specifically covered by

paragraph 10.4.4 - all of which are to be considered administrative costs covered by the CONTRACTOR'S fee.

10.5.2 Principal Office

Expenses of CONTRACTOR'S principal and branch offices other than CONTRACTOR'S office at the site.

10.5.3 Capital Expense

Any part of CONTRACTOR'S capital expenses, including interest on CONTRACTOR'S capital employed for the Work and charges against CONTRACTOR for delinquent payments.

10.5.4 Bonds and Insurance

Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 10.4.5.9 above).

10.5.5 Costs Due to Negligence

Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

10.5.6 Other Costs

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 10.4.

**10.6 Contractor's Fee**

The CONTRACTOR'S Fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

10.6.1 a mutually acceptable fixed fee; or if none can be agreed upon,

10.6.2 a fee based on the following percentages of the various portions of the Cost of the Work:

10.6.2.1 for costs incurred under paragraphs 10.4.1 and 10.4.2, the CONTRACTOR'S fee shall be fifteen percent;

10.6.2.2 for costs incurred under paragraph 10.4.3, the CONTRACTOR'S fee shall be five percent; and if a subcontract is on the

basis of Cost of the Work Plus a fee, the maximum allowable to CONTRACTOR on account of overhead and profit of all Subcontractors shall be fifteen percent;

10.6.2.3 no fee shall be payable on the basis of costs itemized under paragraphs 10.4.4, 10.4.5 and 10.5;

10.6.2.4 the amount of credit to be allowed by CONTRACTOR to OWNER for any such change which results in a net decrease in cost will be the amount of the actual net decrease plus a deduction in CONTRACTOR'S Fee by an amount equal to ten percent of the net decrease; and

10.6.2.5 when both additions and credits are involved in any one change, the adjustment in CONTRACTOR'S fee shall be computed on the basis of the net change in accordance with paragraphs 10.6.2.1 through 10.6.2.4, inclusive.

#### **10.7 Itemized Cost Breakdown**

Whenever the cost of any Work is to be determined pursuant to paragraph 10.4 or 10.5, CONTRACTOR will submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

#### **10.8 Cash Allowances**

It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be done by such Subcontractors or Suppliers and for such sums within the limit of the allowances as may be acceptable to ENGINEER, CONTRACTOR agrees that:

##### **10.8.1 Materials and Equipment**

The allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

##### **10.8.2 Other Costs**

CONTRACTOR'S costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances. No demand for additional payment on account of any thereof will be valid.

##### **10.8.3 Change Order**

Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due



CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

## **10.9 Unit Price Work**

### **10.9.1 General**

Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit prices for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER in accordance with Paragraph 8.10.

### **10.9.2 Overhead and Profit**

Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR'S overhead and profit for each separately identified item.

### **10.9.3 Claim for Increase in Unit Price**

Where the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement and there is no corresponding adjustment with respect to any other item of Work and if CONTRACTOR believes that CONTRACTOR has incurred additional expense as a result thereof, CONTRACTOR may make a claim for an increase in the Contract Price in accordance with Article 10.

## **11. CHANGE OF CONTRACT TIME**

### **11.1 Change Order**

The Contract Time may only be changed by a Change Order. Any claim for an extension or shortening of the Contract Time shall be based on written notice delivered to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with

paragraph 8.11. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 11.1.

**11.2 Justification for Time Extensions**

The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefore as provided in paragraph 11.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 6, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

**11.3 Time Limits**

All time limits stated in the Contract Documents are of the essence of the Agreement. The provisions of this Article 11 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court costs) for delay by either party.

**12. WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK**

**12.1 Warranty and Guarantee**

CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the Contract Documents and will not be defective. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 12.

**12.2 Access to Work**

ENGINEER and ENGINEER'S representatives, other representatives of OWNER, testing agencies and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

**12.3 Tests and Inspections**

**12.3.1 Timely Notice**

CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

**12.3.2 Requirements and Responsibilities**

The ENGINEER may require such inspection and testing during the course of the Work as he/she deems necessary to ascertain and assure the integrity and acceptable quality of the materials incorporated and the work performed. Inspection presence may be either full-time or intermittent, and neither the presence nor absence at any time of the ENGINEER or the INSPECTOR shall relieve the CONTRACTOR of sole responsibility for the acceptability and integrity of the Work or any part thereof.

The costs of sampling, testing, and inspection on-site to ascertain acceptability of the Work and materials will be borne by the OWNER except as otherwise provided. The OWNER will select a testing laboratory to perform such sampling and testing. Sampling and/or testing required by the CONTRACTOR or necessitated by failure of Work or materials to meet the above acceptability test shall be at the expense of the CONTRACTOR.

Inspection services may be performed by the employees of the OWNER or by others selected or designated by the OWNER or the ENGINEER.

Sampling and/or testing required for manufacturing quality and/or process control, for certification that raw mineral materials or manufactured products are the quality specified in the contract, or to assure the acceptability for incorporation into the Work shall be borne by the CONTRACTOR or the material supplier.

Cost for inspection, sampling, testing, and approvals required by the laws or regulations of any public body having competent jurisdiction shall be borne by the CONTRACTOR or the material supplier.

Sampling and testing will be in accord with pertinent codes and regulations and with appropriate standards of the American Society of Testing Materials or other specified standards.

12.3.3 On-Site Construction Test and Other Testing

All inspections, tests or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by ENGINEER if so specified).

12.3.4 Covered Work

If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR'S intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

12.3.5 CONTRACTOR'S Obligation

Neither observations by ENGINEER nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR'S obligations to perform the Work in accordance with the Contract Documents.

**12.4 OWNER May Stop the Work**

If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any other party.

**12.5 Correction or Removal of Defective Work**

If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

**12.6 One Year Correction Period**

If within one year after the date of Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective Work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) will be paid by CONTRACTOR. In special circumstances where a particular item of equipment is placed in continuous service before Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Change Order.

**12.7 Acceptance of Defective Work**

If, instead of requiring correction or removal and replacement of defective Work, OWNER prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER'S evaluation of and determination to accept such defective Work (such costs to be approved by ENGINEER as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals).

**12.8 OWNER May Correct Defective Work**

If CONTRACTOR fails within a reasonable time after written notice of ENGINEER to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 12.5, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price. Such direct, indirect and consequential costs will include but not be limited to fees and charges of engineers, architects, attorneys and other professionals, all court costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR'S defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

### **13. PAYMENTS TO CONTRACTOR AND COMPLETION**

#### **13.1 Schedule of Values**

The schedule of values established as provided in paragraph 2.8 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

#### **13.2 Application for Progress Payment**

At least ten days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but

delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. OWNER shall, within thirty (30) calendar days of presentation to him of an approved Application for Payment, pay CONTRACTOR the amount approved by ENGINEER.

**13.3 CONTRACTOR'S Warranty of Title**

CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

## **13.4 Review of Applications for Progress Payment**

### **13.4.1 Submission of Application for Payment**

ENGINEER will, after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER, or return the Application to CONTRACTOR indicating in writing ENGINEER'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application.

### **13.4.2 ENGINEER'S Recommendation**

ENGINEER may refuse to recommend the whole or any part of any payment, if, in ENGINEER'S opinion, it would be incorrect to make such representations to OWNER. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER'S opinion to protect OWNER from loss because:

13.4.2.1 the Work is defective, or completed Work has been damaged requiring correction or replacement;

13.4.2.2 the Contract Price has been reduced by Written Amendment or Change Order;

13.4.2.3 OWNER has been required to correct defective Work or complete Work in accordance with paragraph 12.8; or

13.4.2.4 of ENGINEER'S actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.2.1 through 14.2.9 inclusive.

## **13.5 Partial Utilization**

OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and has been completed. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER that said part of the Work is complete and request that a Certificate of Completion be issued for that part of the Work.

**13.6 Final Inspection**

Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

**13.7 Final Application for Payment**

After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in paragraph 5.14) and other documents - all as required by the Contract Documents, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 13.10), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Subcontractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

**13.8 Final Payment and Acceptance**

**13.8.1 ENGINEER'S Approval**

If, on the basis of ENGINEER'S observation of the Work during construction and final inspection, and ENGINEER'S review of the final Application for Payment and accompanying documentation - all as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the Contract Documents have been fulfilled, ENGINEER will, after receipt of the final Application for Payment, indicate in writing ENGINEER'S recommendation of payment and present the Application to OWNER for payment. Thereupon ENGINEER will give written notice to OWNER and CONTRACTOR that the Work is acceptable, subject to the provisions of paragraph 13.10. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to



recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application.

**13.8.2 Delay in Completion of Work**

If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed, OWNER shall, upon receipt of CONTRACTOR'S final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 10 of Part II, Information for Bidders, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

**13.8.3 Retainage**

**Retainage is not applicable to this project.**

**13.9 CONTRACTOR'S Continuing Obligation**

CONTRACTOR'S obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Completion, nor any payment by OWNER to CONTRACTOR under the Contract Documents, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the Contract Documents or a release of CONTRACTOR'S obligation to perform the Work in accordance with the Contract Documents (except as provided in paragraph 13.10).

**13.10 Waiver of Claims**

The making and acceptance of final payment will constitute:

**13.10.1** a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection or from failure to comply with the Contract Documents or the terms of any special guarantees specified therein; however, it will not constitute a waiver by OWNER of any rights in respect of CONTRACTOR'S continuing obligations under the Contract Documents; and

**13.10.2** a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

**14. SUSPENSION OF WORK AND TERMINATION**

**14.1 OWNER May Suspend Work**

OWNER may, at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 10 and 11.

**14.2 OWNER May Terminate**

The OWNER may terminate the Work upon the occurrence of any one or more of the following events:

**14.2.1** if CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code (Title 11, United States Code), as now or hereafter in effect, or if CONTRACTOR takes any equivalent or similar action by filing a petition or otherwise under any other federal or state law in effect at such time relating to the bankruptcy or insolvency;

**14.2.2** if a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other federal or state law in effect at the time relating to bankruptcy or insolvency;

**14.2.3** if CONTRACTOR makes a general assignment for the benefit of creditors;

**14.2.4** if a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose of enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors;

**14.2.5** if CONTRACTOR admits in writing an inability to pay its debts generally as they become due;

**14.2.6** if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment

or failure to adhere to the progress schedule established under paragraph 2.8 as revised from time to time);

**14.2.7** if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

**14.2.8** if CONTRACTOR disregards the authority of ENGINEER, or

**14.2.9** if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

**14.2.10** If safety violations are observed and brought to the Contractors attention and Contractor fails to take immediate corrective measures or for any repeat of similar safety violations, Owner will order an immediate termination of contract. Note: it is the Contractor's responsibility to know proper safety measures as they pertain to construction and OSHA.

**14.2.11** This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.

**14.2.12** This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under

the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.

**14.3 CONTRACTOR'S Services Terminated**

Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

**14.4 Payment After Termination**

Upon seven days' written notice to CONTRACTOR, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expenses, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs).

**14.5 CONTRACTOR May Stop Work or Terminate**

If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within sixty days after it is submitted, or OWNER fails for sixty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and ENGINEER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 5.16 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

**15. MISCELLANEOUS**

**15.1 Claims for Injury or Damage**

Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 15.1 shall

not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

**15.2 Non-Discrimination in Employment**

The CONTRACTOR shall comply with the following requirements prohibiting discrimination:

**15.2.1** That no person (as defined in **KRS 344.010**) shall bid on Lexington-Fayette Urban County Government construction projects, or bid to furnish materials or supplies to the Lexington-Fayette Urban County Government, if, within six months prior to the time of opening of bids, said person shall have been found, by declaratory judgment action in Fayette Circuit Court, to be presently engaging in an unlawful practice, as hereinafter defined. Such declaratory judgment action may be brought by an aggrieved individual or upon an allegation that an effort at conciliation pursuant to KRS 344.200 has been attempted and failed, by the Lexington-Fayette County Human Rights Commission.

**15.2.2** That it is an unlawful practice for an employer:

**15.2.2.1** to fail or refuse to hire, or to discharge any individual or otherwise to discriminate against an individual, with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, age, or national origin; or

**15.2.2.2** to 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 sex, race, color, religion, age, or national origin.

**15.2.3** That it is an unlawful practice for an employer, labor organization, or joint-labor management committee controlling apprenticeship or other training or retraining, including on-the-job training programs to discriminate against an individual because of his race, color, religion, sex, age, or national origin in admission to, or employment in, any program established to provide apprenticeship or other training.

**15.2.4** That a copy of this Ordinance shall be furnished all suppliers and made a part of all bid specifications.

**15.2.5** This Ordinance shall take effect after it is signed, published and recorded, as required by law.

**15.3 Temporary Street Closing or Blockage**

The CONTRACTOR will notify the ENGINEER at least 72 hours prior to making any temporary street closing or blockage. This will permit orderly notification to all concerned public agencies. Specific details and restrictions on street closure or blockage are contained in the Special Conditions.

**15.4 Percentage of Work Performed by prime CONTRACTOR**

The CONTRACTOR shall perform on site, and with its own organization, Work equivalent to at least fifty (50%) percent of the total amount of Work to be performed under the Contract. This percentage may be reduced by a supplemental agreement to this Contract if, during performing the Work, the CONTRACTOR requests a reduction and the ENGINEER determines that the reduction would be to the advantage of the OWNER.

**15.5 Clean-up**

Cleanup shall progress, to the greatest degree practicable, throughout the course of the Work. The Work will not be considered as completed, and final payment will not be made, until the right-of-way and all ground occupied or affected by the Contractor in connection with the Work has been cleared of all rubbish, equipment, excess materials, temporary structures, and weeds. Rubbish and all waste materials of whatever nature shall be disposed of, off of the project site, in an acceptable manner. All property, both public and private, which has been damaged in the prosecution of the Work, shall be restored in an acceptable manner. All areas shall be draining, and all drainage ways shall be left unobstructed, and in such a condition that drift will not collect or scour be induced.

**15.6 General**

The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 12.1, 12.3.5, 13.3, and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the Contract Documents will survive final payment and termination or completion of the Agreement.

**15.7 Debris Disposal**

For all LFUCG projects any trash, construction demolition debris, yard waste, dirt or debris of any kind that is removed from the project site must be disposed of in accordance with local, state, and federal regulations. The disposal site or facility

must be approved in advance by the LFUCG and disposal documentation is required. The Contractor will be responsible for payment of any fines associated with improper disposal of material removed from the project site.

END OF SECTION

**PART V**  
**SPECIAL CONDITIONS**

**INDEX**

1. REQUIRED RISK MANAGEMENT PROVISIONS
2. BLASTING
3. LABOR/EQUAL EMPLOYMENT OPPORTUNITY
4. FAILURE TO COMPLETE WORK ON TIME
5. KYTC PRE-QUALIFICATION REQUIRED AT TIME OF BID OPENING
6. KY DIVISION OF WATER/EPA PERMITS
7. PAYMENT FOR COST OF PERFORMANCE AND PAYMENT BONDS ON CAPITAL PROJECTS
8. SPECIAL UTILITY NOTES
9. STATE AND FEDERAL WAGE SCALE DETERMINATIONS



SC-2

1. **REQUIRED RISK MANAGEMENT PROVISIONS**

**RISK MANAGEMENT PROVISIONS  
INSURANCE AND INDEMNIFICATION**

---

**INDEMNIFICATION AND HOLD HARMLESS PROVISION**

- (1) It is understood and agreed by the parties that Contractor hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- (2) CONTRACTOR shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by CONTRACTOR's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (4) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.

**FINANCIAL RESPONSIBILITY**

BIDDER/CONTRACTOR understands and agrees that it shall, prior to final acceptance of its bid and the commencement of any work, demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions.

**INSURANCE REQUIREMENTS**

YOUR ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AAND YOU MAY NEED TO CONFER WITH YOUR INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF SUBMISSION OF A RESPONSE THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF YOU FAIL TO COMPLY WITH THE INSURANCE REQUIREMENTS BELOW, YOU MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

Required Insurance Coverage

BIDDER/CONTRACTOR shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to LFUCG in order to protect LFUCG against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR. The cost of such insurance shall be included in any bid:

<u>Coverage</u>	<u>Limits</u>
General Liability aggregate (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million or \$2 million combined single limit
Commercial Automobile Liability occurrence (Insurance Services Office Form CA 0001)	combined single, \$1 million per
Worker's Compensation	Statutory
Employer's Liability	\$500,000.00

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky (DOI). LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. The General Liability Policy shall include a Products and Completed Operations endorsement or Premises and Operations Liability endorsement unless it is deemed not to apply by LFUCG.
- d. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- e. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a

form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

#### Renewals

After insurance has been approved by LFUCG, evidence of renewal of an expiring policy must be submitted to LFUCG, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

#### Deductibles and Self-Insured Programs

**IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE.**

Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of BIDDER/CONTRACTOR's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage. If BIDDER/CONTRACTOR satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retentions, BIDDER/CONTRACTOR agrees to provide Lexington-Fayette Urban County Government, Division of Risk Management, the following data prior to the final acceptance of bid and the commencement of any work:

- a. Latest audited financial statement, including auditor's notes.
- b. Any records of any self-insured trust fund plan or policy and related accounting statements.
- c. Actuarial funding reports or retained losses.
- d. Risk Management Manual or a description of the self-insurance and risk management program.
- e. A claim loss run summary for the previous five (5) years.
- f. Self-Insured Associations will be considered.

#### Safety and Loss Control

CONTRACTOR shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and LFUCG.

Verification of Coverage

BIDDER/CONTRACTOR agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

Right to Review, Audit and Inspect

CONTRACTOR understands and agrees that LFUCG may review, audit and inspect any and all of its records and operations to insure compliance with these Insurance Requirements.

DEFAULT

BIDDER/CONTRACTOR understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default and that LFUCG may elect at its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging BIDDER/CONTRACTOR for any such insurance premiums purchased, or suspending or terminating the work.

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**2. BLASTING**

Blasting is NOT allowed on this project.

**3. LABOR/EQUAL EMPLOYMENT OPPORTUNITY**

**INFORMATION PACKAGE**

(Copy package from LFUCG standards)  
for federal projects only on following pages

**SPECIAL CONDITIONS  
LABOR/EQUAL EMPLOYMENT OPPORTUNITY  
INFORMATION PACKAGE**

**FOR  
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT**

**JIM GRAY, MAYOR**

LABOR/EEO CONDITIONS INDEX

**Isaac Murphy Memorial Art Garden Trailhead Construction**

**BID NO.: 106-2014**

ITEM DESCRIPTION

REQUIRED CONTRACT PROVISIONS FORM FHWA-1273  
FEDERAL WAGE SCALE  
COMPLIANCE WITH EXECUTIVE ORDER 11246  
NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL  
OPPORTUNITY (EXECUTIVE ORDER 11246)  
REPORTING REQUIREMENTS  
PATENT RIGHT REQUIREMENTS  
COPYRIGHT REQUIREMENTS  
ACCESS TO RECORDS REQUIREMENTS AND RECORD RETENTION REQUIREMENTS  
CONTRACT AWARD RESTRICTIONS TO FOREIGN COUNTRIES  
KENTUCKY EQUAL EMPLOYMENT OPPORTUNITY ACT  
OTHER FEDERAL REQUIREMENTS  
PUBLIC LAW 88-352: TITLE VI OF THE CIVIL RIGHTS ACT OF 1964  
COMPLIANCE WITH CLEAN AIR AND WATER ACTS  
ENERGY EFFICIENCY REQUIREMENTS  
LEAD-BASED PAINT CONSIDERATIONS  
POTENTIAL DBE CONTRACTOR'S LIST CONTACT  
EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION  
DEBARMENT CERTIFICATION (TO BE COMPLETED AND/OR SIGNED)

FORM FHWA-1273

REQUIRED CONTRACT PROVISIONS FEDERAL - AID CONSTRUCTION CONTRACTS

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

**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 superintendent 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 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 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 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 wage determination 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 shall set out accurately and completely all of the information 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 THIS SECTION DELETED JUNE 4, 2007.**

**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 judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - 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.

#### COMPLIANCE WITH EXECUTIVE ORDER 11246

**During the performance of this contract, the contractor agrees as follows:**

1. The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated, during employment without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: 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. The contractor agrees to post in conspicuous place, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.
2. The contractor will, in all solicitations or advertisements for employees placed on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.
3. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract of understanding, a notice to be provided advising the said labor union or worker's representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous place 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 noncompliance.

In case the work to be performed is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan, insurance or guarantee, or undertaken pursuant to any Federal Program involving such grant, contract, loan, insurance or guarantee, during the performance of this contract, the Contractor, in addition, agrees to comply with:

4. All provisions of the latest current Executive Order and executive amendments, of the rules, regulations and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

5. The contractor will furnish all information and reports required by the Executive, and by the rules, regulations and orders of the said committee, or pursuant thereto, and will permit access to his books, records and accounts by the administering agency and the Committee for purposes of investigation to ascertain compliance with such rules, regulations and orders.

6. In the event of the contractor's noncompliance with the non-discrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or Federally assigned construction contracts in accordance with procedures authorized in the Executive Order, and such other sanctions may be imposed and remedies invoked as provided in the said Executive Order or by rule, regulation or order of the President's Committee on Equal Employment Opportunity or as otherwise provided by law.

7. The contractor will include the provisions of Paragraphs (1) through (7) in every sub-contract or purchase order unless exempted by rules, regulations or orders of the President's Committee on Equal Employment Opportunity, so that provisions will be binding upon each sub-contractor or vendor. The contractor will take such action with respect to any sub-contractor purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a sub-contractor or vendor as a result of such direction by the agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

**FEDERAL WAGE SCALE**

The following thirteen (13) pages are applicable.

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 Opportunity Construction Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

<u>Timetables</u>	Goals for minority	Goals for female
Current	participation for each trade 10.8%	participation in each trade 6.9%

These goals are applicable to all the Contractor's construction work performed in the covered area, whether or not it is federally assisted.

The Contractor's compliance with the Executive Order and the regulations in 41 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 established for the geographical area where the contract resulting from this solicitation is to be performed. 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 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 10 working days of award of any construction subcontract in excess of \$10,000 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; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.
4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is the State of Kentucky, County of Fayette, City of Lexington.

## REPORTING REQUIREMENTS

### Notice of awarding agency requirements and regulations pertaining to reporting.

#### A. Preconstruction Conference

Before Contractor starts the work at the proposed site, a conference attended by the Contractor, Engineer/Architect, Contract Compliance Officer, and other appropriate parties will be held to discuss the following issues: (1) The scheduling of the work to be completed; (2) The procedures for handling shop drawings and other submittals; (3) The processing of applications for payment; (4) The establishment of an understanding among the involved parties in regard to the proposed project; and (5) The establishment of procedures for effectively implementing the 10% minimum DBE goals.

#### B. Documents Required of Contractor

Documentation showing the percentage of the DBE employment levels on each project of the Bidder's current work force, and DBE participation levels for Subcontractors.

#### C. Optional Owner Requirements

The Owner, at its discretion, may require the Contractor to provide: (1) financial security in amounts and kind deemed necessary by the Owner or require other financial security to meet the financial responsibility requirements of the Contractor to indemnify the Owner; (2) Additional information and/or DBE work data, as well as DBE participation data.

## PATENT RIGHT REQUIREMENTS

Notice of awarding agency requirements and regulations pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract.

### § 401.14 STANDARD PATENT RIGHTS CLAUSES

The following is the standard patent rights clause to be used as specified in §401.3(a).

#### *Patent Rights (Small Business Firms and Nonprofit Organizations)*

##### A. Definitions

1. "Invention" means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code, or any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321 et seq.).
2. "Subject invention" means any invention of the **contractor** conceived or first actually reduced to practice in the performance of work under this **contract**, provided that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d) must also occur during the period of **contract** performance.
3. "Practical Application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or government regulations, available to the public on reasonable terms.
4. "Made" when used in relation to any invention means the conception or first actual reduction to practice such invention.
5. "Small Business Firm" means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.
6. "Nonprofit Organization" means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c) and exempt from taxation under section 501(a) of the Internal Revenue Code (25 U.S.C 501 (a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

##### B. Allocation of Principal Rights

1. The **Contractor** may retain the entire right, title, and interest throughout the world to each subject invention, subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the **Contractor** retains title, the Federal Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

C. Invention Disclosure, Election of Title and Filing of Patent Application by **Contractor**.

1. The **Contractor** will disclose each subject invention to the Federal Agency within two months after the inventor discloses it in writing to **contractor** personnel responsible for patent matters. The disclosure to the agency shall be in the form of a written report and shall identify the contract under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the agency the Contractor will promptly notify the agency of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the contractor.
2. The Contractor will elect in writing whether or not to retain title to any such invention by notifying the Federal agency within two years of disclosure to the Federal agency. However, in any case where publication, on sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by the agency to a date that is no more than 60 days prior to the end of the statutory period.
3. The Contractor will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The Contractor will file patent applications in additional countries or international patent offices within either ten months of the corresponding initial patent application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.
4. Requests for extension of the time for disclosure, election, and filing under subparagraphs (1), (2), and (3) may, at the discretion of the agency, be granted.

D. Conditions When the Government May Obtain Title

The Contractor will convey to the Federal agency, upon written request, title to any subject invention--



1. If the contractor fails to disclose or elect title to the subject invention within the times specified in (C), above, or elects not to retain title; provided that the agency may only request title within 60 days after learning of the failure of the contractor to disclose or elect within the specified times.
2. In those countries in which the contractor fails to file patent applications within the times specified in (C) above; provided, however, that if the contractor has filed a patent application in a country after the times specified in (C) above, but prior to its receipt of the written request of the Federal agency, the contractor shall continue to retain title in that country.
3. In any country in which the contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

E. Minimum Rights to Contractor and Protection of the Contractor Right to File

1. The contractor will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the contractor fails to disclose the invention within the times specified in (C), above. The contractor's license extends to its domestic subsidiary and affiliates, if any, within the corporate structure of which the contractor is a party and includes the right to grant sublicenses of the same scope to the extent the contractor was legally obligated to do so at the time the contract was awarded. The license is transferable only with the approval of the Federal agency except when transferred to the successor of that party of the contractor's business to which the invention pertains.
2. The contractor's domestic license may be revoked or modified by the funding Federal agency to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR Part 404 and agency licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the contractor has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the funding Federal agency to the extent the contractor, its licensees, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.
3. Before revocation or modification of the license, the funding Federal agency will furnish the contractor a written notice of its intention to revoke or modify the license, and the contractor will be allowed thirty days (or such other time as may be authorized by the funding Federal agency for good cause shown by the contractor) after the notice to show cause why the license should not be revoked or modified. The contractor has the right to appeal, in accordance with applicable regulations in 37 CFR Part 404 and agency regulations (if any) concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of the license.

F. Contractor Action to Protect the Government's Interest

1. The contractor agrees to execute or to have executed and promptly deliver to the Federal agency all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the contractor elects to retain title, and (ii) convey title to the Federal agency when requested under paragraph (D) above and to enable the government to obtain patent protection throughout the world in that subject invention.
2. The contractor agrees to require, by written agreement, its employees, other than clerical and non-technical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the contractor each subject invention made under contract in order that the contractor can comply with the disclosure provisions of paragraph (C), above, and to execute all papers necessary to file patent applications on subject inventions and to establish the government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by (C)(1), above. The contractor shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.
3. The contractor will notify the Federal agency of any decisions not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of the response period required by the relevant patent office.
4. The contractor agrees to include, within the specification of any United States patent applications and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with government support under (identify the contract) awarded by (identify the Federal agency). The government has certain rights in the invention."

G. Subcontracts

1. The contractor will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier for experimental, developmental or research work to be performed by a small business firm or domestic nonprofit organization. The subcontractor will retain all rights provided for the contractor in this clause, and the contractor will not, as part of the consideration for awarding the subcontractor, obtain rights in the subcontractor's subject inventions.
2. The contractor will include in all other subcontracts, regardless of tier, for experimental developmental or research work the patent rights clause required by (cite section of agency implementing regulations or FAR).
3. In the case of subcontracts, at any tier, when the prime award with the Federal agency was a contract (but not a grant or cooperative agreement), the agency, subcontractor, and the contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the Federal agency with respect to the matters covered

by the clause; provided, however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes Act in connection with proceedings under paragraph (J) of this clause.

#### H. Reporting Utilization of Subject Inventions

1. The Contractor agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the contractor or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the contractor, and such other data and information as the agency may reasonably specify. The contractor also agrees to provide additional reports as may be requested by the agency in connection with any march-in proceeding undertaken by the agency in accordance with paragraph (J) of this clause. As required by 35 U.S.C. 202 (C)(5), the agency agrees it will not disclose such information to persons outside the government without permission of the contractor.

#### I. Preference for United States Industry

Notwithstanding any other provision of this clause, the contractor agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency upon a showing by the contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

#### J. March-in Rights

The contractor agrees that with respect to any subject invention in which it has acquired title, the Federal agency has the right in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the agency to require the contractor, an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the contractor, assignee, or exclusive licensee refuses such a request the Federal agency has the right to grant such a license itself if the Federal agency determines that:

1. Such action is necessary because the contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use.
2. Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the contractor, assignee or their licensees:

3. Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the contractor, assignee or licensees; or
4. Such action is necessary because the agreement required by paragraph (I) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

K. Special Provisions for Contracts with Nonprofit Organizations

If the Contractor is a nonprofit organization, it agrees that:

1. Rights to a subject invention in the United States may not be assigned without the approval of the Federal agency, except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the contractor.
2. The contractor will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;
3. The balance of any royalties or income earned by the contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education; and
4. It will make efforts that are reasonable under the circumstances to attract licensees of subject invention that are small business firms and that it will give a preference to a small business firm when licensing a subject invention if the contractor determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided, that the contractor is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the contractor. However, the contractor agrees that the Secretary may review the contractor's licensing program and decisions regarding small business applicants, and the contractor will negotiate changes to its licensing policies, procedures, or practices with the Secretary when the Secretary's review discloses that the contractor could take reasonable steps to implement more effectively the requires of this paragraph (K)(4).

1. Communication

(Complete According to Instruction at 401.5(b))

(b) When the Department of Energy (DOE) determines to use alternative provisions under § 401.3(a)(4), the standard clause at

§ 401.14(a), above, shall be used with the following modifications unless a substitute clause is drafted by DOE:

- (1) The title of the clause shall be changed to read as follows: Patent Rights to Nonprofit DOE Facility Operators
  - (2) Add an "(A)" after "(1)" in paragraph (c)(1) and add subparagraphs (B) and (C) to paragraph (c)(1) as follows:
    - (B) If the subject invention occurred under activities funded by the naval nuclear propulsion or weapons related programs of DOE, then the provisions of this subparagraph (c)(1)(B) will apply in lieu of paragraphs (c)(2) and (3). In such cases the contractor agrees to assign the government the entire right, title, and interest thereto throughout the world in and to the subject invention except to the extent that rights are retained by the contractor through a greater rights determination or under paragraph (e), below. The contractor, or an employee-inventor, with authorization of the contractor, may submit a request for greater rights at the time the invention is disclosed or within a reasonable time thereafter. DOE will process such a request in accordance with procedures at 37 CFR 401.15. Each determination of greater rights will be subject to paragraphs (h)-(k) of this clause and such additional conditions, if any, deemed to be appropriate by the Department of Energy.
    - (C) At the time an invention is disclosed in accordance with (c)(1)(A) above, or within 90 days thereafter, the contractor will submit a written statement as to whether or not the invention occurred under a naval nuclear propulsion or weapons-related program of the Department of Energy. If this statement is not filed within this time, subparagraph (c)(1)(B) will apply in lieu of paragraphs (c)(2) and (3). The contractor statement will be deemed conclusive unless, within 60 days thereafter, the Contracting Officer disagrees in writing, in which case the determination of the Contracting Officer will be deemed conclusive unless the contractor files a claim under the Contract Disputes Act within 60 days after the Contracting Officer's determination. Pending resolution of the matter, the invention will be subject to subparagraph (c)(1)(B).
3. Paragraph (k)(3) of the clause will be modified as prescribed at § 401.5(g).

#### § 401.15 Deferred Determinations

- (a) This section applies to requests for greater rights in subject inventions made by contractors when deferred determination provisions were included in the funding agreement because one of the exceptions at § 401.3(a) was applied, except that the Department of Energy is authorized to process deferred determinations either in accordance with its waiver regulations or this section. A contractor requesting greater rights should include with its request information on its plans and intentions to bring the invention to practical application. Within 90 days after receiving a request and

supporting information, or sooner if a statutory bar to patenting is imminent, the agency should seek to make a determination. In any event, if a bar to patenting is imminent, unless the agency plans to file on its own, it shall authorize the contractor to file a patent application pending a determination by the agency. Such a filing shall normally be at the contractor's own risk and expense. However, if the agency subsequently refuses to allow the contractor to retain title and elects to proceed with the patent application under government ownership, it shall reimburse the contractor for the cost of preparing and filing the patent application.

- (b) If the circumstances of concerns which originally led the agency to invoke an exception under § 401.3(a) are not applicable to the actual subject invention or are no longer valid because of subsequent events, the agency should allow the contractor to retain title to the invention on the same conditions as would have applied if the standard clause at § 401.14(a) had been used originally, unless it has been licensed.
- (c) If paragraph (b) is not applicable, the agency shall make its determination based on an assessment whether its own plans regarding the invention will better promote the policies and objectives of 35 U.S.C. 200 than will contractor ownership of the invention. Moreover, if the agency is concerned only about specific uses or applications of the invention, it shall consider leaving title in the contractor with additional conditions imposed upon the contractor's use of the invention for such applications or with expanded government license rights in such applications.
- (d) A determination not to allow the contractor to retain title to a subject invention or to restrict or condition its title with conditions differing from those in the clause at § 401.14(a), unless made by the head of the agency, shall be appealable by the contractor to an agency official at a level above the person who made the determination. This appeal shall be subject to the procedures applicable to appeals under § 401.11 of this part.

#### § 401.16 Submissions and Inquiries

All submissions or inquiries should be directed to Federal Technology Management Policy Division, telephone number 202-377-0659, Room H4837, U.S. Department of Commerce, Washington, DC 20230  
(FR Doc. 87-5618 Filed 3-17-87: 8:45 am)

## COPYRIGHT REQUIREMENTS

### Awarding agency requirements and regulations pertaining to copyrights and rights in data.

#### COPYRIGHTS

Federally supported grant research projects frequently result in the production of books, brochures, manuals, articles, films, or other written materials. In most instances they are technical reports which serve to disseminate the results of a project to the public and to the scientific community or other researchers. Often, however, these documents are publishable and occasionally they have significant commercial value. Who controls the rights to these materials? What rights does the Government retain? What are the grantee's responsibilities in handling the materials?

There is a widely held notion that written materials produced with the support of public money are automatically in the public domain. That view is erroneous, and in fact no member of the public has an inherent right to use grant-produced materials merely because they were prepared under Government assistance. Because of the confusion, however, it is important for grantees to note a few features of the copyright law which relate to the subject of the grants.

In general, researchers have exclusive rights in any original works of their authorship. Under the most recent amendment to the copyright law, statutory copyright protection extends to both published and unpublished works of the author. Researchers are cautioned to observe the publication policies of their institutions or organizations in this regard, and unless there is an express agreement to the contrary, their employing institution may be considered the author of any materials prepared in the course of their employment, under the "works for hire" doctrine.

Under the most recent amendments to the copyright law, it is clear that grant reports are not considered works of the Government which are in the public domain. The legislative history of the law shows that Congress expressly left it to the discretion of the individual grant-making agencies to determine whether written materials produced by their grantees should be placed in the public domain, and it expected the questions to be resolved by the terms and conditions of grants. The House Report No. 94-1476, September 3, 1976, stated on page 59:

**A more difficult and far-reaching problem is whether the definition should be broadened to prohibit copyright in works prepared under U.S. Government contract or grant. As the bill is written, the Government agency concerned could determine in each case whether to allow an independent contractor or grantee to secure copyright in works prepared in whole or in part with the use of Government funds. The argument that has been made against allowing copyright in this situation is that the public should not be required to pay a "double subsidy," and that it is inconsistent to prohibit copyright in works by Government employees while permitting private copyrights in a growing body of works created by persons who are paid with Government funds. Those arguing in favor of potential copyright protection have stressed the importance of copyright as an incentive to creation and dissemination in this situation, and the basically different policy considerations, applicable to works written by Government**

employees and those applicable to works prepared by private organizations with the use of Federal funds.

The bill deliberately avoids making any sort of outright, unqualified prohibition against copyright in works prepared under Government contract or grant. There may be cases where it would be in the public interest to deny copyright in the writings generated by Government research contracts and the like; it can be assumed that, where a Government agency commissions a work for its own use merely as an alternative to having one of its own employees prepare the work, the right to secure a private copyright would be withheld. However, there are almost certainly many other cases where the denial of copyright protection would be unfair or would hamper the production and publication of important works. Where, under the particular circumstances, Congress or the agency involved finds the need to have a work freely available outweighs the need of the private author to secure copyright, the problem can be dealt with by specific legislation, agency regulations, or contractual restrictions.

### *Agency Policy*

Government-wide policies contained in Office of Management and Budget Circulars A-102 and A-110 speak to the issue of copyrightable materials through their respective Attachments N. Circular A-110 states:

8b. Copyrights. - Except as otherwise provided in the terms and conditions of the agreement, the author or the recipient organization is free to copyright any books, publications, or other copyrightable materials developed in the course of or under a Federal agreement, but the Federal sponsoring agency shall reserve a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use, and to authorize others to use, the work for Government purposes.

Except for minor, nonsubstantive differences, the provisions of A-102 are identical. Each permits the grantee to copyright published materials, subject to a license for the U.S. Government to use the materials for Government purposes. Each also gives the grantor agency discretion in altering that condition, by establishing different terms and conditions in its grants.

### *Suggested steps for grantees*

A grantee whose grant-financed activity may involve the need for potential need for copyrighting of materials should:

- Check the terms and conditions of the grant to determine whether a copyright can be asserted in unpublished as well as published materials. This may vary from grantor agency to grantor agency and from grant to grant.
- It is the grantee's obligation to take the necessary steps to preserve the Government's license when conveying rights to publishers. If the publisher provides a release form that does not contain a reference to Government use of the materials, appropriate language should be inserted that preserves the Government's rights. If necessary, the granting agency should be consulted to assure compliance with the terms of the grant.



- Under most Federal grants, proper acknowledgment of the source of funds used to write a published work will be required. For example, the National Science Foundation **Grant General Conditions** require the following acknowledgment of support and disclaimer statement in any publication of material, whether copyrighted or not: "This material is based upon work supported by the National Science Foundation under Grant No. \_\_\_\_." Except for scientific articles and papers appearing in scientific journals, all materials must also contain the following disclaimer:

Any opinions, findings and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

- When negotiating a publication agreement, the grantee must include in the publishing contract the reservation of Government license and the acknowledgment and disclaimer statements.
- Grants often are made with the stipulation that any substantive technical reports will be made available to the public through the U.S. Department of Commerce, National Technical Information Service (NTIS). Again, the grantee is well advised to check the terms and conditions of its grant agreement to see if such requirements exist and, if so, to account for them in dealing with potential publishers.
- Provide copies of copyrighted work to the granting agency.
- Some agencies may require prior approval of any proposed commercial publication, including approval of the selection process by which a publisher is obtained. The National Science Foundation, for example, requires documentation showing that a reasonable number of qualified publishers were given an opportunity to compete for the materials. Also, the selection criteria are subject to examination, as well as the final publishing contract.

With respect to any discovery or invention which arises or is developed in the course of or under this contract, Lexington-Fayette Urban County Government and/or Owner shall have the right to require the contractor, an assignee or exclusive licensee of a subject invention to grant a non-exclusive, partially exclusive, or exclusive license in any field of use to Lexington-Fayette Urban County Government and/or Owner.

With respect to any copyrights and rights in data, Lexington-Fayette Urban County Government and/or Owner shall have the right to retain all copyrights and rights in data.

**ACCESS TO RECORDS REQUIREMENTS**

**Access by the grantee, the subgrantee, the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of the contractor which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.**

**ACCESS TO RECORDS**

The Contractor agrees that the Lexington-Fayette Urban County Government, the Owner, the Comptroller General of the United States, or any of their duly authorized representatives, shall have access to any and all books, documents, papers, and records of the Contractor which are directly pertinent to this specific project for the purposes of making an audit, examination, excerpts, and transcriptions.

**RECORDS RETENTION REQUIREMENTS**

**Retention of all required records for three years after contractors or subcontractors make final payments and all other pending matters are closed.**

## CONTRACT AWARD RESTRICTION TO FOREIGN COUNTRIES

Contractor agrees to fully comply with applicable terms and conditions in Section 109 of Pub. L. 100-102 as set forth below:

### RESTRICTIONS ON PUBLIC BUILDINGS AND PUBLIC WORKS PROJECTS

(A) Definitions. "Component" as used in this clause means those articles, materials, and supplies incorporated directly into the product.

"Contractor or subcontractor of a foreign country," as used in this clause, means any Contractor or Subcontractor that is a citizen or national of a foreign country or is controlled directly or indirectly by citizens or nationals of a foreign country. A contractor or subcontractor shall be considered to be a citizen or national of a foreign country or controlled directly or indirectly by citizens or nationals of a foreign country.

- (1) If 50 percent or more of the Contractor or Subcontractor is owned by a citizen or a national of the foreign country;
- (2) If the title of to 50 percent or more of the stock of the Contractor or Subcontractor is held subject to trust or fiduciary obligation in favor of citizens or nationals of the foreign country;
- (3) If 50 percent or more of the voting power in the Contractor-Subcontractor is vested in or exercisable on behalf of a citizen or national of the foreign country;
- (4) In the case of a partnership, if any general partner is a citizen of the foreign country;
- (5) In the case of a corporation, if its president or other chief executive officer or the chairman of its board of directors is a citizen of the foreign country or the majority of any number of its directors necessary to constitute a quorum are citizens of the foreign country or the corporation is organized under the laws of the foreign country or any subdivision, territory, or possession thereof; or
- (6) In the case of a Contractor or Subcontractor who is a joint venture, if any participant firm is a citizen or national of a foreign country or meets any of the criteria in subparagraphs (a)(1) through (5) of this clause.

"Product", as used in this clause, means construction materials-i.e., articles, materials, and supplies brought to the construction site for incorporation into the public works project, including permanently affixed equipment, instruments, utilities, electronic or other devices, but not including vehicles or construction equipment. In determining the origin of a product Lexington-Fayette Urban County Government and/or Owner will consider a product as produced in a foreign country if it has been assembled or manufactured in the foreign country, or if the cost of the components mined, produced, or manufactured in the foreign country exceed 50 percent of the cost of all its components.

- (b) Restrictions. The Contractor shall not (1) knowingly enter into any subcontract under this contract with a Subcontractor of a foreign country on the list of countries that discriminate against U.S. firms published by the United States Trade Representative (see paragraph (c) of

this clause, or (2) supply any product under this contract of a country included on the list of foreign countries that discriminate against U.S. firms published by the USTR.

- (c) USTR list. The USTR published an initial list in the Federal Register on December 30, 1987 (53 FR 49244), which identified one country - Japan. The USTR can add other countries to the list or remove countries from it in accordance with Section 109 (c) of Pub. L 100-202.
- (d) Certification. The Contractor may rely upon the certification of a prospective Subcontractor that it is not a Subcontractor of a foreign country included on the list of countries that discriminate against U.S. firms published by the USTR and that products supplied by such Subcontractor for use on the Federal public works project under this contract are not products of a foreign country included on the list of foreign countries that discriminate against U.S. firms published by the USTR, unless such Contractor has knowledge that the certification is erroneous.
- (e) Subcontracts. The Contractor shall incorporate this clause, modified only for the purpose of properly identifying the parties in all subcontracts. This paragraph (e) shall also be incorporated in all subcontracts.

(End of Contract Clause)

Bids/proposals from such firms/suppliers shall be deemed nonresponsible and rejected.

Questions related to this issue should be directed to Division of Community Development, Lexington-Fayette Urban County Government, 200 E. Main Street 6th Floor, Lexington, Kentucky 40507.

## KENTUCKY EQUAL EMPLOYMENT OPPORTUNITY ACT

The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.570-45.640) requires that any county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly or indirectly publicly funded contracts for supplies, materials, services or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, or national origin;
2. The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractor that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, or national origin;
3. The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the nondiscrimination clauses required by this section; and
4. The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or worker's representative of the contractor's commitments under the non discrimination clauses.

The Act further provides:

### KRS 45.610. Hiring Minorities - Information Required

1. For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetables.
2. Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to KRS 45.640 and such rules, regulations and orders issued pursuant thereto.

### KRS 45.620. Action Against Contractor -- Hiring of Minority Contractor or Subcontractor

1. If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such

certifications shall be binding upon the contracting agency unless it is reversed in the course of judicial review.

2. If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.
3. The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority subcontractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.

KRS 45.630. Termination of existing employee not required, when:

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee, upon proof that the employee was employed prior to the date of the contract.

KRS 45.640. Minimum Skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.

## OTHER FEDERAL REQUIREMENTS

### INTEREST OF CERTAIN FEDERAL OFFICIALS

No member of or Delegate to the Congress of the United States and no Resident Commissioner, shall be admitted to any share or part of this Agreement or to any benefit to arise from the same.

### INTEREST OF MEMBERS, OFFICERS, OR EMPLOYEES OF PUBLIC BODY, MEMBER OF LOCAL GOVERNING BODY, OR OTHER PUBLIC OFFICIALS

No member, officer, or employee of the Public Body, or its designees or agents, no member of the governing body of the locality in which the program is situated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the program during his tenure or for one year thereafter, shall have any interest, direct or indirect, in any contract or sub-contract, or the proceeds thereof, for work to be performed in connection with the program assisted under this Agreement.

### PROHIBITION AGAINST PAYMENTS OF BONUS OR COMMISSION

The assistance provided under this Agreement shall not be used in the payment of any bonus or commission for the purpose of obtaining Federal approval of the application for such assistance, or approval of applications for additional assistance, or any other approval of concurrence required under this Agreement with respect thereto; provided, however, that reasonable fees or bonafide technical, consultant, managerial or other such services, other than actual solicitation, are not hereby prohibited if otherwise eligible as program costs.

PUBLIC LAW 88-352: TITLE VI OF THE CIVIL RIGHTS  
ACT OF 1964

**The Developer agrees to insure that no person shall on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program in the multi-family rental housing facility developed through this contract.**

PUBLIC LAW 90-284: TITLE VIII OF THE CIVIL RIGHTS ACT  
OF 1968 AND EXECUTIVE ORDER 11063

The Developer warrants and assures that they and their agents will not discriminate in the rental or leasing of housing units constructed under this contract and will in no way make unavailable or deny a dwelling to any person, because of race, color, religion, sex or national origin.

SECTION 109

The Developer will not on the ground of race, color, national origin, sex, age, or handicap:

1. Deny an facilities, services, financial aid or other benefits provided under the program or activity.
2. Provide any facilities, services, financial aid or other benefits which are different, or are provided in a different form from that provided to others under the program or activity.
3. Subject to segregated or separate treatment in any facility in, or in any matter of process related to receipt of any service or benefit under the program or activity.
4. Restrict in any way access to, or in the enjoyment of any advantage or privilege enjoyed by others in connection with facilities, services, financial aid or other benefits under the program or activity.
5. Treat any individual differently from others in determining whether the individual satisfies any admission, enrollment, eligibility, membership, or other requirement or condition which individual must meet in order to be provided any facilities, services or other benefit provided under the program or activity.
6. Deny an opportunity to participate in a program or activity as an employee.



## COMPLIANCE WITH THE CLEAN AIR AND WATER ACTS

**Compliance with all applicable standards, orders, or requirements issued under section 206 of the Clean Air Act (42 U.S.C. 1857)(h), Section 506 of the Clean Water Act (33 U.S.C. 1368). Executive Order 11738, and Environmental Protection Agency regulations (40 CFR Part 15). (Contracts, subcontracts, and subgrants of amounts in excess of \$100,000).**

### COMPLIANCE WITH AIR AND WATER ACTS

This Agreement is subject to the requirements of the Clean Air Act, as amended, 42 USC 1857 et seq., the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended from time to time.

The Contractor and any of its subcontractors for work funded under this Agreement, in excess of \$100,000 agree to the following requirements:

1. A stipulation by the Contractor or subcontractors that any facility to be utilized in the performance of any non-exempt contract or subcontract is not listed on the List of Violating Facilities issued by the Environmental Protection Agency (EPA) pursuant to 40 CFR 15.20.
2. Agreement by the Contractor to comply with all requirements of Section 114 of the Clean Air Act, as amended, (42 U.S.C. 1857c-8) and Section 308 of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1318) relating to inspection, monitoring, entry, reports and information, as well as all other requirements specified in said Section 114 and Section 308, and all regulations and guidelines issued there under.
3. A stipulation that as a condition for the award of the Contract prompt notice will be given of any notification received from the Director, Office of Federal Activities, EPA indicating that a facility utilized or to be utilized for the Contract is under consideration to be listed on the EPA list of Violating Facilities.
4. Agreement by the Contractor that he/she will include or cause to be included the criteria and requirements in paragraph (1) through (4) of this section in every nonexempt subcontract and requiring that the Contractor will take such action as the Government may direct as a means of enforcing such provision.

In no event shall any amount of assistance provided under this Agreement be utilized with respect to a facility which has given rise to a conviction under Section 113(c)(1) of the Clean Air Act or Section 309(c) of the Federal Water Pollution Control Act.

ENERGY EFFICIENCY REQUIREMENTS

**Mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L.94-163).**

## LEAD BASED PAINT

- A. All paint to be lead free.
- B. Existing lead paint to be removed or concealed with an acceptable covering (paint, siding, etc.)
- C. Warning
  1. Use of lead-base paint materials on any surface, interior or exterior, is prohibited.
  2. Lead-base paint removal is a dangerous task and safety precautions should be strictly enforced when workers are engaged in hazard abatement.

**POTENTIAL DBE CONTRACTOR'S LIST CONTACT**

For a listing of DBE (Disadvantaged Business Enterprise) contractors/subcontractors, please contact:

Marilyn Clark/Todd Slatin  
Division of Central Purchasing  
200 E. Main Street, 3<sup>rd</sup> Floor  
Lexington, KY 40507  
(859) 258-3326  
TDD [hearing impaired only] (859) 258-3606

## EQUAL EMPLOYMENT OPPORTUNITY AFFIRMATIVE ACTION POLICY

It is the policy of \_\_\_\_\_  
to assure that all applicants for employment and all employees are treated on a fair and equitable basis without regard to their race, religion, sex, color, handicap, natural origin or age.

Such action shall include employment, promotion, demotion, recruitment or recruitment advertising, layoff or termination, rates of pay and other forms of compensation, and selection for training, whether apprenticeship and/or on-the-job-training.

Furthermore, this company agrees to make special recruitment efforts to hire the protected class whenever feasible. This company also agrees to adhere to all applicable federal, state, and local laws relating to Equal Employment Opportunity for all individuals.

\_\_\_\_\_ has been appointed Equal Employment Compliance (EEOC) Officer and shall be available for counseling, answering of questions in regards to this company policy, and to hear any complaints of discrimination. The EEOC Office may be reached by calling \_\_\_\_\_.

Signature: \_\_\_\_\_  
(Bidding Contractor)

Title: \_\_\_\_\_

Date: \_\_\_\_\_

DEBARMENT CERTIFICATION

All contractors/subcontractors shall complete the following certification and submit it with the bid proposal.

The contractor/subcontractor certifies in accordance with Executive Order 12549 (Debarment and Suspension 2/18/86) that to the best of its knowledge and belief, that it and its principals:

- 1) Are not presently debarred, suspended, proposed for debarment, declared negligible, or voluntarily excluded from covered transactions or contract by any Federal department or agency for noncompliance with the Federal Labor Standards, Title VI of the Civil Rights Act of 1964 as amended, Executive Order 11246 as amended or any other Federal law;
  - a) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
  - b) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(a) of this certification; and
  - c) Have not within a three year period preceding this bid has one or more public (Federal, State or local) transactions or contracts terminated for cause or default.
- 2) Where the contractor is unable to certify to any of the statements in this certification, such prospective contractors shall attach an explanation to this certification form.

Firm Name: \_\_\_\_\_

Project: \_\_\_\_\_

Printed Name and Title of Authorized Representative: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_



**4. FAILURE TO COMPLETE WORK ON TIME**

Should the Contractor fail or refuse to complete the work within the time specified in his Proposal and/or Contract (or extension of time granted by the OWNER), the Contractor shall pay liquidated damages in an amount set out in said Proposal and/or Contract. The amount of liquidated damages shall in no event be considered as a penalty, nor other than an amount agreed upon by the Contractor and the OWNER for damages, losses, additional engineering, additional resident representation and other costs that will be sustained by the OWNER, if the Contractor fails to complete the work within the specified time. Liquidated damages will be applied on a rate per day for each and every calendar day (Sundays and holidays included) beyond the Contract expiration date stipulated in the Contract Documents, considering all time extensions granted.

**5. KYTC PRE-QUALIFICATION REQUIRED AT TIME OF BID OPENING**

**The Prime Contractor and all Subcontractors are required to be pre-qualified by the KY Transportation Cabinet at time of bid opening. Stone mason is required to be a Certified Stone Mason by the Dry Stone Conservancy, Lexington, KY.**

**6. KY DIVISION OF WATER/EPA PERMITS**

Contractor shall prepare and file the Notice of Intent, the Notice of Termination, and prepare and maintain the BMP (Best Management Practices) and SWPP (Storm Water Pollution Prevention) Plans.

**7. PAYMENT FOR COST OF PERFORMANCE AND PAYMENT BONDS ON CAPITAL PROJECTS**

Contrary to Article 10.5.4 of the General Conditions, direct payment for the Contractor's cost of Performance and Payment Bonds will be permitted.

Direct cost of required Performance and Payment Bonds has been included as a line item in the Form of Proposal, to allow payment for this cost prior to completion of the project if the contractor so chooses. If no figure is supplied for this line item, no specific payment for bonding costs will be made. The total amount of bid is to include the cost of bonding, whether this cost is specifically shown by the bidder on the line item in the Form of Proposal, or whether it is indirectly included elsewhere within the bidder's unit prices.

When the applicable amount is listed in the Form of Proposal, payment for the costs of Performance and Payment Bonds may generally be requested after the work is 20% complete. The contractor will furnish from his bonding agent a receipt verifying the cost



of the bonds and a letter stating that the bonds are in effect and in good standing. Payment will be made for the actual cost of the bonds or the amount stated in the Form of Proposal, whichever is less.

For projects with less than 90 day contract time or a total bid price less than \$100,000, no early or separate repayment of bonding costs will be considered. In those cases, if bonding costs are listed as a bid item, bond payment will be combined with final release of all retainage. **(NO RETAINAGE ON THIS CONTRACT).**

## 8. SPECIAL UTILITY NOTES

### **IMPACT ON CONSTRUCTION**

#### **GENERAL PROJECT NOTE ON UTILITY PROTECTION**

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

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

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

**Utility Notes continued on following pages**

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

**FAYETTE COUNTY**

**ISAAC MURPHY MEMORIAL ART GARDEN TRAILHEAD**

**Item No.: 07-3103.00 (Parent #99-219.07)**

**Project No.: STPE 3003 263**

Utility coordination efforts determined that one utility relocation is required to complete the project. Any work pertaining to these utility facilities are defined in the bid package and are to be carried out as instructed by the Kentucky Transportation Cabinet. The contractor will be responsible for any coordination or adjustments that are discussed or quantified in the proposal.

**Utility Information Note**

**Columbia Gas of Kentucky does have a gas vent stand pipe within the construction area. Columbia Gas has agreed to work with the General Contractor to install a flush-mount vent in the new concrete walk during the construction period.**

**The Lexington-Fayette Urban County Government (LFUCG), Division of Water Quality has sanitary sewer in the construction area. There are no major impacts to any of the utility's structures.**

**Kentucky Utilities, Time Warner Cable, Windstream Communications and Kentucky American Water have service in the vicinity of the construction. However, there is no impact or adjustments required of their services.**

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

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

The Lexington-Fayette Urban County Government makes no guarantees regarding: the existence of utilities, the location of utilities, the utility companies in the project scope, or the potential for conflicts encountered during construction. Any location of utilities provided herein has been furnished by the facility owners, field inspection, and/or reviewing record drawings. The accuracy of the information provided is undetermined. It will be the contractor's responsibility to locate utilities before excavating. 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 contractor is advised to contact KY 811 one-call system; however, the contractor should be aware that owners of underground facilities are not required to be members of the KY 811 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. Note: See attached sheet for Project Area Utility Contacts.

## UTILITY CONTACT LIST FOR PROJECT AREA

It has not been confirmed what specific utility is located within the project bounds beyond field inspection. Therefore, we have provided a contact list as a precautionary measure to aid the awarded contractor in contacting any utility necessary.

Kentucky Utilities Company  
500 Stone Road  
Lexington, KY 40503

Contact: Kevin Long  
859-367-4219  
[Kevin.Long@lge-ku.com](mailto:Kevin.Long@lge-ku.com)

Time Warner Cable  
2544 Palumbo Drive  
Lexington, KY 40509

Contact: Gary Hartford  
859-514-2506  
[Harford.G@twc.com](mailto:Harford.G@twc.com)

Windstream Communications  
130 West New Circle Road, Suite 170  
Lexington, KY 40505

Contact: Gene Dunn  
859-357-6216  
[Gene.Dunn@windstream.com](mailto:Gene.Dunn@windstream.com)

Kentucky American Water  
2300 Richmond Road  
Lexington, KY 40502

Contact: Toby Adams  
859-335-3415  
[Toby.Adams@amwater.com](mailto:Toby.Adams@amwater.com)

Columbia Gas of Kentucky, Inc.  
2001 Mercer Road  
P.O. Box 14241  
Lexington, KY 40512

Contact: David Lemons  
859-288-0249  
[dnlemons@misource.com](mailto:dnlemons@misource.com)

Columbia Gas Transmission  
1675 Muddy Creek Road  
Winchester, KY 40392

Contact: Nena Honeker  
859-745-6415

Lexington-Fayette Urban County Government  
Division of Water Quality  
301 Lisle Industrial Avenue  
Lexington, KY 40511

Contact: Rodney Chervus, P.E.  
859-425-2400  
[rchervus@lfucg.com](mailto:rchervus@lfucg.com)

Lexington-Fayette Urban County Government  
Traffic Engineering  
101 E. Vine Street, Suite 300  
Lexington, KY 40507

Contact: Jeffery Neal  
859-258-3830  
[jneal@lfucg.com](mailto:jneal@lfucg.com)

TW Telecom, Inc.

Contact : Gerald Long

333 West Vine Street, Suite 330  
Lexington, KY 40507

859-550-2201  
[Gerald.Long@twtelecom.com](mailto:Gerald.Long@twtelecom.com)

### **AIRPORT CONTACTS**

None within project corridor.

### **RAILROAD COMPANIES**

None within project corridor.

## **9. FEDERAL AND STATE WAGE SCALE**

Fringe benefit amounts are applicable for all hours worked except when otherwise noted. These rates are listed pursuant to the Kentucky Determination **KY140100 05/23/2014 KY100**

No laborer, workman or mechanic shall be paid at a rate less than that of a Journeyman except those classified as bona fide apprentices.

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

**TO: EMPLOYERS/EMPLOYEES  
PREVAILING WAGE SCHEDULE:**

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

**OVERTIME:**

Overtime is to be paid 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 the undersigned.

Ryan Griffith, Director  
Division of Construction Procurement  
Frankfort, Kentucky 40622

(THIS PAGE INTENTIONALLY LEFT BLANK – REFER TO FEDERAL AND STATE WAGE RATE SUMMARIES ON FOLLOWING PAGES)

FEDERAL WAGE RATES

General Decision Number: KY140100 05/23/2014 KY100

Superseded General Decision Number: KY20130100

State: Kentucky

Construction Type: Highway

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

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

Modification Number	Publication Date
0	01/03/2014
1	02/14/2014
2	04/18/2014
3	05/09/2014
4	05/23/2014

BRIN0004-003 06/01/2011

BRECKENRIDGE COUNTY

	Rates	Fringes
BRICKLAYER.....	\$ 24.11	10.07

BRKY0001-005 06/01/2013



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

	Rates	Fringes
BRICKLAYER.....	\$ 24.82	10.71
-----		
BRKY0002-006 06/01/2011		

BRACKEN, GALLATIN, GRANT, MASON & ROBERTSON COUNTIES:

	Rates	Fringes
BRICKLAYER.....	\$ 26.57	10.26
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BRKY0007-004 06/01/2011		

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

	Rates	Fringes
BRICKLAYER.....	\$ 28.29	16.80
-----		
BRKY0017-004 06/01/2009		

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

	Rates	Fringes
BRICKLAYER.....	\$ 24.11	9.97
-----		
CARP0064-001 04/01/2014		

	Rates	Fringes
CARPENTER.....	\$ 27.50	14.96
		SC-18

Diver.....	\$ 41.63	14.96
PILEDRIVERMAN.....	\$ 27.75	14.96

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ELEC0212-008 06/03/2013

BRACKEN, GALLATIN and GRANT COUNTIES

	Rates	Fringes
ELECTRICIAN.....	\$ 26.35	16.09

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ELEC0212-014 07/01/2013

BRACKEN, GALLATIN & GRANT COUNTIES:

	Rates	Fringes
Sound & Communication Technician.....	\$ 22.50	9.51

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ELEC0317-012 05/29/2013

BOYD, CARTER, ELLIOT & ROWAN COUNTIES:

	Rates	Fringes
Electricians:		
Cable Splicer.....	\$ 32.68	18.13
Electrician.....	\$ 32.22	20.84

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ELEC0369-007 05/29/2013

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

	Rates	Fringes
ELECTRICIAN.....	\$ 29.48	14.37
		SC-19

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ELEC0575-002 12/31/2012

FLEMING, GREENUP, LEWIS & MASON COUNTIES:

	Rates	Fringes
ELECTRICIAN.....	\$ 31.20	13.55

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\* ENGI0181-018 07/01/2013

	Rates	Fringes
POWER EQUIPMENT OPERATOR		
GROUP 1.....	\$ 28.00	13.90
GROUP 2.....	\$ 25.45	13.90
GROUP 3.....	\$ 25.85	13.90
GROUP 4.....	\$ 25.17	13.90

OPERATING ENGINEER CLASSIFICATIONS

GROUP 1 - A-Frame Winch Truck; Auto Patrol; Backfiller; Batcher Plant; Bituminous Paver; Bituminous Transfer Machine; Boom Cat; Bulldozer; Mechanic; Cableway; Carry-All Scoop; Carry Deck Crane; Central Compressor Plant; Cherry Picker; Clamshell; Concrete Mixer (21 cu. ft. or Over); Concrete Paver; Truck-Mounted Concrete Pump; Core Drill; Crane; Crusher Plant; Derrick; Derrick Boat; Ditching & Trenching Machine; Dragline; Dredge Operator; Dredge Engineer; Elevating Grader & Loaders; Grade-All; Guries; Heavy Equipment Robotics Operator/Mechanic; High Lift; Hoe-Type Machine; Hoist (Two or More Drums); Hoisting Engine (Two or More Drums); Horizontal Directional Drill Operator; Hydrocrane; Hyster; KeCal Loader; LeTourneau; Locomotive; Mechanic; Mechanically Operated Laser Screed; Mechanic Welder; Mucking Machine; Motor Scraper; Orangepeel Bucket; Overhead Crane; Piledriver; Power Blade; Pumpcrete; Push Dozer; Rock Spreader, attached to equipment; Rotary Drill; Roller (Bituminous); Rough Terrain Crane; Scarifier; Scoopmobile; Shovel; Side Boom; Subgrader; Tailboom; Telescoping Type Forklift; Tow or Push Boat; Tower Crane (French, German & other types); Tractor Shovel; Truck

Crane; Tunnel Mining Machines, including Moles, Shields or similar types of Tunnel Mining Equipment

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

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

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

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

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

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IRON0044-009 06/01/2013

BRACKEN, GALLATIN, GRANT, HARRISON, ROBERTSON,

BOURBON (Northern third, including Townships of Jackson, Millersburg, Ruddel Mills & Shawhan);  
 CARROLL (Eastern third, including the Township of Ghent);  
 FLEMING (Western part, excluding Townships of Beechburg, Colfax, Elizaville, Flemingsburg, Flemingsburg Junction, Foxport, Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills, Nepton, Pecksville, Plummers Landing, Plummers Mill, Poplar Plains, Ringos Mills, Tilton & Wallingford);  
 MASON (Western two-thirds, including Townships of Dover, Lewisburg, Mays Lick, Maysville, Minerva, Moranburg, Murphysville, Ripley, Sardis, Shannon, South Ripley & Washington);  
 NICHOLAS (Townships of Barefoot, Barterville, Carlisle, Ellisville, Headquarters, Henryville, Morningglory, Myers & Oakland Mills);  
 OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook, Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita & Wheatley);  
 SCOTT (Northern two-thirds, including Townships of Biddle, Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers Gap, Sadieville, Skinnersburg & Stonewall)

Rates      Fringes

IRONWORKER

Fence Erector.....	\$ 22.50	18.40
Structural.....	\$ 24.80	18.40

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 IRON0070-006 06/01/2013

ANDERSON, BOYLE, BRECKINRIDGE, BULLITT, FAYETTE, FRANKLIN, GRAYSON, HARDIN, HENRY, JEFFERSON, JESSAMINE, LARUE, MADISON, MARION, MEADE, MERCER, NELSON, OLDHAM, SHELBY, SPENCER, TRIMBLE, WASHINGTON & WOODFORD  
 BOURBON (Southern two-thirds, including Townships of Austerlity, Centerville, Clintonville, Elizabeth, Hutchison, Littlerock, North Middletown & Paris);  
 CARROLL (Western two-thirds, including Townships of Carrollton, Easterday, English, Locust, Louis, Prestonville & Worthville);  
 CLARK (Western two-thirds, including Townships of Becknerville,

Flanagan, Ford, Pine Grove, Winchester & Wyandotte);  
 OWEN (Eastern eighth, including Townships of Glenmary, Gratz,  
 Monterey, Perry Park & Tacketts Mill);  
 SCOTT (Southern third, including Townships of Georgetown, Great  
 Crossing, Newtown, Stampling Ground & Woodlake);

	Rates	Fringes
IRONWORKER.....	\$ 26.47	19.30

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 IRON0372-006 06/01/2013

BRACKEN, GALLATIN, GRANT, HARRISON and ROBERTSON  
 BOURBON (Northern third, including Townships of Jackson,  
 Millersburg, Ruddel Mills & Shawhan);  
 CARROLL (Eastern third, including the Township of Ghent);  
 FLEMING (Western part, Excluding Townships of Beechburg, Colfax,  
 Elizaville, Flemingsburg, Flemingsburg Junction, Foxport,  
 Grange City, Hillsboro, Hilltop, Mount Carmel, Muses Mills,  
 Nepton, Pecksridge, Plummers Landing, Plummers Mill, Poplar  
 Plains,  
 Ringos Mills, Tilton & Wallingford);  
 MASON (Western two-thirds, including Townships of Dover,  
 Lewisburg, Mays Lick, Maysville, Minerva, Moranburg,  
 Murphysville, Ripley, Sardis, Shannon, South Ripley &  
 Washington);  
 NICHOLAS (Townships of Barefoot, Barterville, Carlisle,  
 Ellisville, Headquarters, Henryville, Morningglory, Myers &  
 Oakland Mills);  
 OWEN (Townships of Beechwood, Bromley, Fairbanks, Holbrook,  
 Jonesville, Long Ridge, Lusby's Mill, New, New Columbus, New  
 Liberty, Owenton, Poplar Grove, Rockdale, Sanders, Teresita &  
 Wheatley);  
 SCOTT (Northern two-thirds, including Townships of Biddle,  
 Davis, Delaplain, Elmville, Longlick, Muddy Ford, Oxford, Rogers  
 Gap, Sadieville, Skinnersburg & Stonewall) COUNTIES

	Rates	Fringes
IRONWORKER, REINFORCING.....	\$ 26.47	19.30

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IRON0769-007 12/01/2012

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

	Rates	Fringes
IRONWORKER.....	\$ 32.54	20.18

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LABO0189-003 07/01/2013

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

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 21.35	11.61
GROUP 2.....	\$ 21.60	11.61
GROUP 3.....	\$ 21.65	11.61
GROUP 4.....	\$ 22.25	11.61

LABORERS CLASSIFICATIONS

GROUP 1 - Aging & Curing of Concrete; Asbestos Abatement  
Worker; Asphalt Plant; Asphalt; Batch Truck Dump; Carpenter  
Tender; Cement Mason Tender; Cleaning of Machines;

Concrete; Demolition; Dredging; Environmental - Nuclear, Radiation, Toxic & Hazardous Waste - Level D; Flagperson; Grade Checker; Hand Digging & Hand Back Filling; Highway Marker Placer; Landscaping, Mesh Handler & Placer; Puddler; Railroad; Rip-rap & Grouter; Right-of-Way; Sign, Guard Rail & Fence Installer; Signal Person; Sound Barrier Installer; Storm & Sanitary Sewer; Swamper; Truck Spotter & Dumper; Wrecking of Concrete Forms; General Cleanup

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

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

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

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LABO0189-008 07/01/2013

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



Rates Fringes

Laborers:

GROUP 1.....	\$ 22.01	10.95
GROUP 2.....	\$ 22.26	10.95
GROUP 3.....	\$ 22.31	10.95
GROUP 4.....	\$ 22.91	10.95

LABORERS CLASSIFICATIONS

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

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

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

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

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 LABO0189-009 07/01/2013

BRECKINRIDGE & GRAYSON COUNTIES

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 21.96	11.00
GROUP 2.....	\$ 22.21	11.00
GROUP 3.....	\$ 22.26	11.00
GROUP 4.....	\$ 22.86	11.00

LABORERS CLASSIFICATIONS

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

GROUP 2 - Batter Board Man (Sanitary & Storm Sewer);  
 Brickmason Tender; Mortar Mixer Operator; Scaffold Builder;  
 Burner & Welder; Bushhammer; Chain Saw Operator; Concrete  
 Saw Operator; Deckhand Scow Man; Dry Cement Handler;  
 Environmental - Nuclear, Radiation, Toxic & Hazardous Waste  
 - Level C; Forklift Operator for Masonary; Form Setter;  
 Green Concrete Cutting; Hand Operated Grouter & Grinder  
 Machine Operator; Jackhammer; Pavement Breaker; Paving

Joint Machine; Pipelayer; Plastic Pipe Fusion; Power Driven Georgia Buggy & Wheel Barrow; Power Post Hole Digger; Precast Manhole Setter; Walk-Behind Tamper; Walk-Behind Trencher; Sand Blaster; Concrete Chipper; Surface Grinder; Vibrator Operator; Wagon Driller

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

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

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 PAIN0012-005 06/11/2005

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

Rates Fringes

PAINTER

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

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 PAIN0012-017 05/01/2014

BRACKEN, GALLATIN, GRANT, MASON & OWEN COUNTIES:

SC-28

	Rates	Fringes
PAINTER (Heavy & Highway Bridges - Guardrails - Lightpoles - Striping)		
Bridge Equipment Tender and Containment Builder.....	\$ 20.73	8.71
Brush & Roller.....	\$ 23.39	8.71
Elevated Tanks; Steeplejack Work; Bridge & Lead Abatement.....		
	\$ 24.39	8.71
Sandblasting & Water Blasting.....		
	\$ 24.14	8.71
Spray.....	\$ 23.89	8.71

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PAIN0118-004 05/01/2010

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

	Rates	Fringes
PAINTER		
Brush & Roller.....	\$ 18.50	10.30
Spray, Sandblast, Power Tools, Waterblast & Steam Cleaning.....		
	\$ 19.50	10.30

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PAIN1072-003 12/01/2013

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

	Rates	Fringes
Painters:		
Bridges; Locks; Dams; Tension Towers & Energized Substations.....		
	\$ 31.03	15.10
Power Generating Facilities.	\$ 27.79	15.10

SC-29

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PLUM0248-003 06/01/2013

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

	Rates	Fringes
Plumber and Steamfitter.....	\$ 33.00	17.93

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PLUM0392-007 06/01/2013

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

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 29.60	17.09

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PLUM0502-003 08/01/2013

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

	Rates	Fringes
PLUMBER.....	\$ 32.00	17.17

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SUKY2010-160 10/08/2001

	Rates	Fringes
Truck drivers:		
GROUP 1.....	\$ 16.57	7.34
GROUP 2.....	\$ 16.68	7.34
GROUP 3.....	\$ 16.86	7.34
GROUP 4.....	\$ 16.96	7.34

TRUCK DRIVER CLASSIFICATIONS

SC-30

GROUP 1 - Mobile Batch Truck Tender

GROUP 2 - Greaser; Tire Changer; & Mechanic Tender

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

GROUP 4 - Euclid & Other Heavy Earthmoving Equipment & Lowboy; Articulator Cat; 5-Axle Vehicle; Winch & A-Frame when used in transporting materials; Ross Carrier; Forklift when used to transport building materials; & Pavement Breaker

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

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

#### Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

## WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material,



etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION



Steven L. Beshear  
Governor

**KENTUCKY LABOR CABINET**  
DEPARTMENT OF WORKPLACE STANDARDS  
DIVISION OF EMPLOYMENT STANDARDS,  
APPRENTICESHIP & MEDIATION  
1047 US Hwy 127 S - Suite 4  
Frankfort, Kentucky 40601  
Phone: (502) 564-3534  
Fax (502) 696-1897  
www.labor.ky.gov

Larry Roberts  
Secretary

Anthony Russell  
Commissioner

June 2, 2014

Morgan Dye  
Element Design  
400 Old Vine St. Ste. 206  
Lexington KY 40507

Re: LFUCG, Isaac Murphy Memorial Art Garden Trail Head

Advertising Date as Shown on Notification: May 30, 2014

Dear Morgan Dye:

This office is in receipt of your written notification on the above project as required by KRS 337.510 (1).

I am enclosing a copy of the current prevailing wage determination number CR 8-008, dated July 30, 2013 for FAYETTE County. This schedule of wages shall be attached to and made a part of the specifications for the work, printed on the bidding blanks, and made a part of the contract for the construction of the public works between the public authority and the successful bidder or bidders.

The determination number assigned to this project is based upon the advertising date contained in your notification. There may be modifications to this wage determination prior to the advertising date indicated. In addition, if the contract is not awarded within 90 days of this advertising date or if the advertising date is modified, a different set of prevailing rates of wages may be applicable. It will be the responsibility of the public authority to contact this office and verify the correct schedule of the prevailing rates of wages for use on the project. Your project number is as follows: 034-H-01246-13-8, Heavy/Highway

Sincerely,

Anthony Russell  
Commissioner



**KENTUCKY LABOR CABINET  
PREVAILING WAGE DETERMINATION  
CURRENT REVISION  
LOCALITY NO. 008**

Determination No. CR-8-008

Date of Determination: July 30, 2013

**PROJECT NO. 034-H-01246-13-8**

\_\_\_\_\_BLDG    \_\_\_x\_\_\_HH

This schedule of the prevailing rate of wages for Locality No. 008, which includes Fayette County, has been determined in accordance with the provisions of KRS 337.505 to 337.550. This determination shall be referred to as Prevailing Wage Determination No. CR-8-008.

Apprentices shall be permitted to work as such subject to Administrative Regulations 803 KAR 1:010. Copies of these regulations will be furnished upon request to any interested person.

Overtime is to be computed at not less than one and one-half (1 1/2) times the indicated BASE RATE for all hours worked in excess of eight (8) per day, and/or in excess of forty (40) per week. However, KRS 337.540 permits an employee and employer to agree, in writing, that the employee will be compensated at a straight time base rate for hours worked in excess of eight (8) hours in any one calendar day, but not more than ten (10) hours worked in any one calendar day, if such written agreement is prior to the over eight (8) hours in a calendar day actually being worked, or where provided for in a collective bargaining agreement. The fringe benefit rate is to be paid for each hour worked at a straight time rate for all hours worked. Fringe benefit amounts are applicable for all hours worked except when otherwise noted. Welders will receive rate for craft in which welding is incidental.

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 registered with the Kentucky State Apprenticeship Supervisor unless otherwise specified in this schedule of wage rates.

NOTE: The type of construction shall be determined by applying the following definitions.

**BUILDING CONSTRUCTION**

Building construction is the construction of sheltered enclosures with walk-in access for the purpose of housing persons, machinery, equipment, or supplies. It includes all construction of such structures, the installation of utilities and the installation of equipment, both above and below grade level, as well as incidental grading, utilities and paving.

**HIGHWAY CONSTRUCTION**

Highway construction includes the construction, alteration or repair of roads, streets, highways, runways, taxiways, alleys, trails, paths, parking areas, and other similar projects not incidental to building or heavy construction. It includes all incidental construction in conjunction with the highway construction project.

**HEAVY CONSTRUCTION**

Heavy projects are those projects that are not properly classified as either "building" or "highway". For example, dredging projects, water and sewer line projects, dams, flood control projects, sewage treatment plants and facilities, and water treatment plants and facilities are considered heavy.



---

Anthony Russell, Commissioner  
Department of Workplace Standards  
Kentucky Labor Cabinet

<b>ASBESTOS/INSULATION WORKERS:</b>		BASE RATE	\$24.92
		FRINGE BENEFITS	11.80

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<b>BOILERMAKERS:</b>		BASE RATE	\$21.75
		FRINGE BENEFITS	11.76

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<b>BRICKLAYERS:</b>			
Bricklayers:		BASE RATE	\$24.31
		FRINGE BENEFITS	11.40

Firebrick & Refractory:		BASE RATE	\$26.08
		FRINGE BENEFITS	11.42

Sawman & Layman:		BASE RATE	24.56
		FRINGE BENEFITS	11.40

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<b>CARPENTERS:</b>			
Carpenters:	BUILDING	BASE RATE	\$21.98
(Includes Drywall Finisher)		FRINGE BENEFITS	12.70

Piledrivermen:	BUILDING	BASE RATE	\$22.48
		FRINGE BENEFITS	12.70

Carpenters:	HEAVY & HIGHWAY	BASE RATE	\$26.90
		FRINGE BENEFITS	14.50

Piledriver:	HEAVY & HIGHWAY	BASE RATE	\$27.15
		FRINGE BENEFITS	14.50

Divers:	HEAVY & HIGHWAY	BASE RATE	\$40.73
		FRINGE BENEFITS	14.50

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<b>CEMENT MASONS:</b>		BASE RATE	\$15.51
		FRINGE	.59

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<b>ELECTRICIANS:</b>		BASE RATE	\$29.48
		FRINGE BENEFITS	14.36

When workmen are required to work from bosun 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: 50 feet to 75 feet – add 25% above the workman's hourly rate, over 75 feet add 50% above workman's hourly rate. No premium shall be paid on work performed using JLGs, bucket trucks or other similar elevated mechanized work platforms up to 75 feet above the surface upon which the platform sits.

LINEMAN:	HEAVY HIGHWAY	BASE RATE	\$31.86
		FRINGE BENEFITS	11.63

EQUIPMENT OPERATOR:	HEAVY HIGHWAY	BASE RATE	\$28.48
		FRINGE BENEFITS	10.94

GROUNDSMAN:	HEAVY HIGHWAY	BASE RATE	\$18.87
		FRINGE BENEFITS	9.03

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<b>ELEVATOR CONSTRUCTORS:</b>		BASE RATE	\$30.46
		FRINGE BENEFITS	8.92

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<b>GLAZIERS:</b>		BASE RATE	\$24.15
		FRINGE BENEFITS	11.45

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<b>IRONWORKERS:</b>		BASE RATE	\$26.47
		FRINGE BENEFITS	19.56

**LABORERS / BUILDING:**

BUILDING GROUP 1: General laborers, asbestos abatement laborer, toxic waste removal laborer, water boys, tool room checker, carpenter tenders, (civil engineer helper, rodman, grade checker, excluding all field work performed by Engineering Firms), concrete pouring and curing, concrete forms stripping and wrecking, hand digging and backfilling of ditches, clearing of right of ways and building sites, wood sheeting and shoring, signalman for concrete bucket and general cleaning, and environmental laborer - nuclear, radiation, toxic and hazardous waste - Level D:

BUILDING	*BASE RATE	\$20.41
	FRINGE BENEFITS	10.69

BUILDING GROUP 2: All air tool operators, air track drills, asphalt rakers, tampers, batchers plant and scale man, chain saw, concrete saw, cutter/burner, electric hand grinder, all electric bush and chipping hammers, flagmen, forklift operators, form setter (street or highway), metal form setters, heaters, mesh handlers on walkways, streets and roadways outside building, gunnite laborers, hand spiker, introflax burning rod, joint makers, mason tender, multi-trade tender, pipe layers, plaster tender, powderman helpers, power driven Georgia buggies, power posthole diggers, railroad laborers, sandblaster laborers, scow man and deck hand, signal man, sweeper and cleaner machines, vibrator operators, vibrator/tamper operated by hand or remote control, walk behind trenching machines, mortar mixer machines, water pumpmen, and environmental laborers - nuclear, radiation, toxic and hazardous waste - Level C:

BUILDING	*BASE RATE	\$20.81
	FRINGE BENEFITS	10.69

BUILDING GROUP 3: Asphalt paver screwman, gunnite nozzleman and gunnite nozzle machine operator, sand blaster nozzleman, concrete or grout pumpman, plaster pumpman:

BUILDING	*BASE RATE	\$21.01
	FRINGE BENEFITS	10.69

BUILDING GROUP 4: Powderman and blaster, and environmental laborer - nuclear, radiation, toxic and hazardous waste - Level B:

BUILDING	*BASE RATE	\$21.11
	FRINGE BENEFITS	10.69

BUILDING GROUP 5: Caisson holes (6 ft. and over) pressure and free air including tools, and environmental laborer - nuclear, radiation, toxic and hazardous waste - Level A:

BUILDING	*BASE RATE	\$21.61
	FRINGE BENEFITS	10.69

BUILDING GROUP 6: Tunnel man and tunnel sand miner, cofferdam (pressure and free air), sand hog or mucker (pressure or free air):

BUILDING	*BASE RATE	\$21.91
	FRINGE BENEFITS	10.69

**\*Employees handling chemically treated materials which are harmful to the skin shall receive an additional \$.50 above base rate. Employees working on high work such as towers or smoke stacks, or any type of work fifty (50) feet above the ground or a solid floor shall receive \$1.00 above base rate. Employees working on boilers, kilns, melting tanks, furnaces, or when refractory is done using live fires, drying fires, heatups or any hot work shall receive \$2.00 above base rate.**

**LABORERS / HEAVY & HIGHWAY:**

HEAVY HIGHWAY GROUP 1: Aging and curing of concrete (any mode or method), asbestos abatement worker, asphalt plant laborers, asphalt laborers, batch truck dumpers, carpenter tenders, cement mason tenders, cleaning of machines, concrete laborers, demolition laborers, dredging laborers, drill helper, environmental laborer - nuclear, radiation, toxic and hazardous waste - Level D, flagmen, grade checkers, all hand digging and hand back filling, highway marker placers, landscaping laborers, mesh handlers and placers, puddler, railroad laborers, rip-rap and grouters, right of way laborers, sign, guard rail and fence installers (all types), signal men, sound barrier installer, storm and sanitary sewer laborers, swampers, truck spotters and dumpers, and wrecking of concrete forms, general cleanup:

HEAVY & HIGHWAY	BASE RATE	\$21.35
	FRINGE BENEFITS	12.01

HEAVY HIGHWAY GROUP 2: Batter board men (sanitary and storm sewer), brickmason tenders, mortar mixer operator, scaffold builders, burner and welder, bushhammers, chain saw operator, concrete saw operators, deckhand scow man, dry cement handlers, environmental laborers - nuclear, radiation, toxic and hazardous waste - Level C, forklift operators for masonry, form setters, green concrete cutting, hand operated grouter and grinder machine operator, jack hammers, lead paint abatement, pavement breakers, paving joint machine, pipe layers-laser operators (non-metallic), plastic pipe fusion, power driven Georgia buggy or wheelbarrow, power post hole diggers, precast manhole setters, walk-behind tampers, walk-behind trenchers, sand blasters, concrete chippers, surface grinders, vibrator operators, wagon drillers:

HEAVY & HIGHWAY	BASE RATE	\$21.60
	FRINGE BENEFITS	12.01

HEAVY HIGHWAY GROUP 3: Asphalt luteman and rakers, gunnite nozzleman, gunnite operators and mixers, grout pump operator, side rail setters, rail paved ditches, screw operators, tunnel laborers (free air), and water blasters:

HEAVY & HIGHWAY	BASE RATE	\$21.65
	FRINGE BENEFITS	12.01

HEAVY HIGHWAY GROUP 4: Caisson workers (free air), cement finishers, environmental laborer - nuclear, radiation, toxic and hazardous waste - Levels A and B, miners and drillers (free air), tunnel blasters, and tunnel muckers (free air), directional and horizontal boring, air track driller (all types), powder man and blaster:

HEAVY & HIGHWAY	BASE RATE	\$22.25
	FRINGE BENEFITS	12.01

**MARBLE, TILE & TERRAZZO:**

Finishers:

BASE RATE	\$14.96
FRINGE BENEFITS	0.00

Setters:

BASE RATE	\$21.89
FRINGE BENEFITS	0.00

**MILLWRIGHTS:**

BASE RATE	\$24.18
FRINGE BENEFITS	15.67

**OPERATING ENGINEERS / BUILDING:**

**NCCCO OR OSCP CERTIFIED**

BUILDING CLASS A-1: Crane, dragline, hoist (1 drum when used for stack or chimney construction or repair); hoisting engineer (2 or more drums), orangepeel bucket, overhead crane, piledriver, truck crane, tower crane, hydraulic crane:

BUILDING	BASE RATE	\$27.90
	FRINGE BENEFITS	13.90

**OPERATING ENGINEERS / BUILDING: CONTINUED**

BUILDING CLASS A: Articulating dump, auto patrol, batcher plant, bituminous paver, cableway, central compressor plant, clamshell, concrete mixer (21 cu. ft. or over), concrete pump, crane, crusher plant, derrick, derrick boat, directional boring machine, ditching and trenching machine, dragline, dredge operator, dredge engineer, elevating grader and all types of loaders, forklift (regardless of lift height), GPS systems (on equipment within the classification), hoe type machine, hoist (1 drum when used for stack or chimney construction or repair), hoisting engineer (2 or more drums), laser or remote controlled equipment (within the classification), locomotive, motor scraper, carry-all scoop, bulldozer, heavy duty welder, mechanic, orangepeel bucket, piledriver, power blade, motor grader, roller (bituminous), scarifier, shovel, tractor shovel, truck crane, winch truck, push dozer, highlift, all types of boom cats, self contained core drill, hopto, tow or push boat, a-frame winch truck, concrete paver, gradeall, hoist, hyster, pumpcrete, Ross carrier, boom, tail boom, rotary drill, hydro hammer, mucking machine, rock spreader attached to equipment, scoopmobile, KeCal loader, tower cranes (French, German and other types), hydrocrane, backfiller, gurries, sub-grader, tunnel mining machines including moles, shields, or similar types of tunnel mining equipment:

BUILDING	*BASE RATE	\$26.84
	FRINGE BENEFITS	13.90

**\*Operators on cranes with boom one-hundred fifty feet (150') and over including jib, shall receive seventy-five cents (\$.75) above base rate. All cranes with piling leads will receive \$.50 above base rate regardless of boom length**

BUILDING CLASS B: All air compressors (over 900 CFM), bituminous mixer, joint sealing machine, concrete mixer (under 21 cu. ft.), form grader, roller (rock), tractor (50 HP and over), bull float, finish machine, outboard motor boat, flexplane, fireman, boom type tamping machine, truck crane oiler, greaser on grease facilities servicing heavy equipment, switchman or brakeman, mechanic helper, whirley oiler, self-propelled compactor, tractair and road widening trencher and farm tractor with attachments (except backhoe, highlift and endloader), elevator (regardless of ownership when used for hoisting any building material), hoisting engineer (1-drum or buck hoist), firebrick (masonry excluded), well points, grout pump, throttle-valve man, tugger, electric vibrator compactor, and caisson drill helper:

BUILDING	BASE RATE	\$23.94
	FRINGE BENEFITS	13.90

BUILDING CLASS C: Bituminous distributor, cement gun, conveyor, mud jack, paving joint machine, roller (earth), tamping machine, tractors (under 50 HP), vibrator, oiler, concrete saw, burlap and curing machine, hydro-seeder, power form handling equipment, deckhand steersman, hydraulic post driver, and drill helper:

BUILDING	BASE RATE	\$23.13
	FRINGE BENEFITS	13.90

**OPERATING ENGINEERS / HEAVY HIGHWAY:**

**NCCCO OR OECF CERTIFIED**

HEAVY HIGHWAY CLASS A-1: Cableway, carry deck crane, cherry picker, clamshell, crane, derrick, derrick boat, dragline, hoist engine (2 or more drums), hydraulic boom truck, hydrocrane, orangepeel bucket, overhead crane, piledriver, rough terrain crane, tower cranes (French, German & other types), truck crane:

HEAVY HIGHWAY	BASE RATE	\$29.07
	FRINGE BENEFITS	13.90

**OPERATING ENGINEERS / HEAVY HIGHWAY: CONTINUED**

HEAVY HIGHWAY CLASS A: A-frame winch truck, auto patrol, backfiller, batcher plant, bituminous paver, bituminous transfer machine, all types of boom cats, bulldozer, cableway, carry-all scoop, carry deck crane, central compressor plant operator, clamshell, concrete mixer (21 cu. ft. or over), concrete paver, truck-mounted concrete pump, core drills, crane, crusher plant, derrick, derrick boat, ditching and trenching machine, dragline, dredge operator, dredge engineer, earth movers, elevating grader and all types of loaders, grade-all, guries, heavy equipment robotics operator/mechanic, high lift, hoe-type machine, hoist (two or more drums), hoisting engine (two or more drums), horizontal directional drill operator, hydraulic boom truck, hydrocrane, hyster, KeCal loader, Letourneau, Locomotive, mechanic, mechanically operated laser screed, mechanic welder, mucking machine, motor scraper, orangepeel bucket, piledriver, power blade, pumpcrete push doxer, rock spreader attached to equipment, all rotary drills, roller (bituminous), scarifier, scoopmobile, shovel, side boom, subgrader, tallboom, telescoping type forklift, tow or push boat, tower cranes (French, German and other types) tractor shovel and truck crane, tunnel mining machines including moles, shields, or similar types of tunnel mining equipment:

HEAVY & HIGHWAY	BASE RATE	\$28.00
	FRINGE BENEFITS	13.90

**Operators on cranes with booms one hundred fifty feet (150') and over including jib shall receive \$.50 above base rate.**

HEAVY HIGHWAY CLASS B: All air compressors (over 900 cu. ft. per min.), bituminous mixer, boom type tamping machine, bull float, concrete mixer (under 21 cu. ft.), dredge engineer, electric vibrator compactor/self-propelled compactor, elevator (one drum or buck hoist), elevator (regardless of ownership when used to hoist building material), finish machine, firemen, flexplane, forklift (regardless of lift height), form grader, hoist (one drum), joint sealing machine, mechanic helper, outboard motor boat, power sweeper (riding type), roller (rock), ross carrier, skid mounted or trailer mounted concrete pumps, skid steer machine with all attachments, switchman or brakeman, throttle valve man, Tract air and road widening trencher, tractor (50 HP and over), truck crane oiler, tugger, welding machine, well points, and whirley oiler:

HEAVY & HIGHWAY	BASE RATE	\$25.45
	FRINGE BENEFITS	13.90

HEAVY HIGHWAY CLASS B2: Greaser on grease facilities servicing heavy equipment, all off road material handling equipment, including articulating dump trucks:

HEAVY & HIGHWAY	BASE RATE	\$25.85
	FRINGE BENEFITS	13.90

HEAVY HIGHWAY CLASS C: Bituminous distributor, burlap and curing machine, caisson drill and core drill helper (track or skid mounted), cement gun, concrete saw, conveyor, deckhand oiler, grout pump, hydraulic post driver, hydro seeder, mud jack, oiler, paving joint machine, power form handling equipment, pump, roller (earth), steermen, tamping machine, tractors (under 50 H.P.) and vibrator:

HEAVY & HIGHWAY	BASE RATE	\$25.17
	FRINGE BENEFITS	13.90

\*\*Operators on cranes with booms one hundred fifty feet (150') and over including jib shall receive \$.50 above base rate.

**PAINTERS:**

Brush, roller & paperhanger:

	BASE RATE	\$17.87
	FRINGE BENEFITS	9.10

Spray, sandblast, waterblast (4000+ PSI), fireproofing & lead abatement:

	BASE RATE	\$18.37
	FRINGE BENEFITS	9.10

**PLASTERERS:**

	BASE RATE	\$20.65
	FRINGE BENEFITS	5.85





**TRUCK DRIVERS / HEAVY HIGHWAY: CONTINUED**

Euclid and other heavy earthmoving equipment and lowboy, articulator cat, 5-axle vehicle, winch and A-frame when used in transporting materials, ross carrier, forklift when used to transport building materials, and pavement breaker:

HEAVY & HIGHWAY

BASE RATE	\$16.96
FRINGE BENEFITS	7.34

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**END OF DOCUMENT**  
**CR-8-008**  
**JULY 30, 2013**



PART VI  
CONTRACT AGREEMENT

INDEX

1. SCOPE OF WORK
2. TIME OF COMPLETION
3. ISSUANCE OF WORK ORDERS
4. THE CONTRACT SUM
5. LIQUIDATED DAMAGES
6. PROGRESS PAYMENTS
7. ACCEPTANCE AND FINAL PAYMENT
8. THE CONTRACT DOCUMENTS
9. EXTRA WORK
10. ENUMERATION OF BID PROPOSAL AND DRAWINGS

CA-2

PART VI

CONTRACT AGREEMENT

THIS AGREEMENT, made on the 1st day of July, 2014, by and between Lexington-Fayette Urban County Government, acting herein called "OWNER" and Bluegrass Contracting Corporation, doing business as ~~\*(an individual)~~ (a partnership) (a corporation) located in the City of Lexington, KY, County of Fayette, and State of Kentucky, hereinafter called "CONTRACTOR."

WITNESSETH: That the CONTRACTOR and the OWNER in consideration of six hundred + ninety seven thousand, six hundred or eighty six Dollars and seventy Cents (\$697,686.70) quoted in the proposal by the CONTRACTOR, dated \_\_\_\_\_, hereby agree to commence and complete the construction described as follows:

**1. SCOPE OF WORK**

The CONTRACTOR shall furnish all the materials, supplies, machinery, equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in the Proposal, the General Conditions, and the Special Conditions of the Contract, the Specifications and Contract Documents therefore as prepared by Element Design, 400 Old Vine St., Suite 206, Lexington, KY 40507 for the Isaac Murphy Memorial Art Garden Trailhead Project.

**2. TIME OF COMPLETION**

The time period estimated and authorized by the OWNER for the proper execution of the Work by the Contract, in full, is hereby fixed as **one hundred twenty (120) calendar days**. The time shall begin ten (10) days after the CONTRACTOR is given the Notice to Proceed with the Work.

**3. ISSUANCE OF WORK ORDERS**

Notice to begin Work will be given in whole or for part of the Work as determined by the OWNER pending the availability of funds. The order of construction will be as determined by the Engineer after consultation with the CONTRACTOR and the OWNER.

**4. THE CONTRACT SUM**

The OWNER agrees to pay the CONTRACTOR in current funds for the performance of the Contract, as quoted in the proposal, subject to any additions and deductions, as provided therein.

**5. LIQUIDATED DAMAGES**

It is mutually agreed by and between the parties hereto that time is of the essence of this Contract, and that there will be sustained by the OWNER damages, monetary and otherwise, in the event of delay in the completion of the Work hereby contracted. The CONTRACTOR will be held responsible to the OWNER for delays in completion of the Work herein contracted beyond the date set for completion. Such monetary damage shall be deducted from the Contract sum in the amount of ONE THOUSAND SIX HUNDRED FIFTY DOLLARS (\$1,650.00) per calendar day of such delay. If the Work contracted to be done shall not, in good faith, be commenced at the time specified, then the CONTRACTOR together with the Surety or Sureties upon the bond herein provided for, shall be liable for and shall pay to the OWNER all damages sustained by reason of such failure for breach of Contract, and the OWNER may immediately re-let the Work involved.

**6. PROGRESS PAYMENTS**

The OWNER shall make payments on account of the Contract, as provided in accordance with the General Conditions, as estimated by the Engineer, less the aggregate of previous payments.

**7. ACCEPTANCE AND FINAL PAYMENT**

Final payment shall be due within ninety (90) days after completion of the Work, provided the Work be then fully completed and the Contract fully accepted.

Before issuance of final certificate, the CONTRACTOR shall submit evidence satisfactory to the Engineer that all payrolls, material bills, and other indebtedness connected with the Work has been paid.

If, after the Work has been substantially completed, full completion thereof is materially delayed through no fault of the CONTRACTOR, and the ENGINEER so certifies, the OWNER shall upon certificate of the ENGINEER, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

**8. THE CONTRACT DOCUMENTS**

The Advertisement for Bids, Information for Bidders, the General Conditions, Performance and Payment Bonds, Contract Agreement, Special Conditions, General Provisions, any and all Addenda, and Bid Proposal, and Plan Drawings form the Contract, and they are fully a part of the Contract as if hereto attached or herein repeated.

**9. EXTRA WORK**

The OWNER, without invalidating the Contract, may order extra work or make changes by altering, adding to or deducting from the Work, the Contract Sum being adjusted accordingly. All such Work shall be executed and paid for in accordance with the General Conditions, which is a part of this Contract.

**10. THE FOLLOWING IS AN ENUMERATION OF THE BID PROPOSAL AND DRAWINGS (CONTRACT DOCUMENTS):**

**CONTRACT DOCUMENTS**

PART NO.	TITLE
I	Advertisement for Bids
II	Information for Bidders
III	Form of Proposal
IV	General Conditions
V	Special Conditions
VI	Contract Agreement
VII	Performance and Payment Bonds
VIII	Technical Specifications

APPENDIX A LFUCG Standard Drawings

APPENDIX B Construction Monitoring Plan

Construction Inspection Plan

KYTC Approved Traffic Management Plan

Rock Soundings Exhibit

APPENDIX C Local Public Agencies – Special Provisions for LPA Administered Projects

**PLAN DRAWINGS**

COVER

TOPOGRAPHIC AND SITE PLAN SURVEY

L1.0 STORM WATER POLLUTION PREVENTION & DEMOLITION PLAN

L1.1 INTERSECTION SWPP & DEMOLITION PLAN

L2.0 LAYOUT PLAN

L2.1 ENLARGED LAYOUT PLAN

L2.2 INTERSECTION LAYOUT & MATERIALS PLAN

L3.0 GRADING & DRAINAGE PLAN



L3.1 ENLARGED GRADING & DRAINAGE PLAN  
L3.2 INTERSECTION GRADING & DRAINAGE PLAN  
L4.0 WATER DISTRIBUTION PLAN  
L5.0 LIGHTING & POWER PLAN  
L6.0 SITE DETAILS  
L7.0 LANDSCAPE PLAN

TRAFFIC PLANS PREPARED BY LFUCG TRAFFIC ENGINEERING

QUANTITIES & GENERAL NOTES  
SIGNALIZATION & STRIPING PLAN  
LOOP DETAILS  
PEDESTRIAN DETECTOR DETAILS  
PEDESTRIAN SIGNAL COUNTDOWN DETAIL  
TRAFFIC SIGNAL JUNCTION BOX AND CONDUIT DETAILS  
CONDUIT INSTALLATION IN EXISTING LOCATIONS

IN WITNESSETH WHEREOF, the parties hereto have executed this Contract as of the date and year above written.

(Seal)

Lexington-Fayette Urban County Government.  
Lexington, Kentucky

(Owner)

ATTEST:

Mark Nally Deputy  
Clerk of the Urban County Council

BY: Jim Gray  
MAYOR

Debbie Oster  
(Witness)

Mayor  
(Title)



Bluegrass Contracting Corporation  
(Contractor)

BY: Mark W. Johnson

Johnny A. Stewart  
(Witness)

Mark W. Johnson, President  
(Title)

1075 Red Mile Rd, Lexington, KY 40504  
(Address and Zip Code)

IMPORTANT: \*Strike out any non-applicable terms.

Secretary of the Owner should attest. If the CONTRACTOR is corporation, Secretary should attest. Give proper title of each person-executing Contract.

CA-8

**PART VII**

**PERFORMANCE AND PAYMENT BONDS**

1. PERFORMANCE BOND
2. PAYMENT BOND



**PART VII**

**PERFORMANCE BOND**

KNOW ALL MEN BY THESE PRESENTS, that

\_\_\_\_\_  
(Name of CONTRACTOR)

\_\_\_\_\_  
(Address of CONTRACTOR)

a \_\_\_\_\_  
hereinafter

(Corporation, Partnership, or Individual)

called Principal, and

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
200 East Main Street, Third Floor  
Lexington, Kentucky 40507

hereinafter called "OWNER" in the penal sum of:

\_\_\_\_\_ Dollars,  
(\$ \_\_\_\_\_), for the payment of whereof Principal and Surety bind themselves, their heirs,  
executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for **Isaac  
Murphy Memorial Art Garden Trailhead Project** in accordance with drawings and  
specifications prepared by: **Lexington-Fayette Urban County Government** which Contract is by  
reference made a part hereof, and is hereinafter referred to as the Contract.

NOW THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal  
shall promptly and faithfully perform said Contract, then this obligation shall be null and void;  
otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever, Principal shall be, and declared by OWNER to be in default under the Contract, the OWNER having performed OWNER'S obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) Complete the Contract in accordance with its terms and conditions or
- (2) Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the OWNER elects, upon determination by the OWNER and Surety jointly of the lowest responsible bidder, arrange for a Contract between such bidder and OWNER, and make available as Work progresses (even though there may be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the Contract Price", as used in this paragraph shall mean the total amount payable by OWNER to Principal under the Contract and any amendments thereto, less the amount properly paid by OWNER to Principal.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators or successors of OWNER.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ each one of which shall be

deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.  
(number)

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

\_\_\_\_\_  
Principal

BY: \_\_\_\_\_(s)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
Witness as to Principal

\_\_\_\_\_  
(Address)

ATTEST:

\_\_\_\_\_  
Surety

BY: \_\_\_\_\_  
Attorney-in-Fact

\_\_\_\_\_  
(Surety) Secretary

\_\_\_\_\_  
(Address)

(SEAL)

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_  
(Address)

TITLE: \_\_\_\_\_

Surety

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

NOTE: The number of executed counterparts of the bond shall coincide with the number of executed counterparts of the Contract.





**PART VII**  
**PAYMENT BOND**

KNOW ALL MEN BY THESE PRESENT: that

\_\_\_\_\_  
(Name of Contractor)

\_\_\_\_\_  
(Address of Contractor)

a \_\_\_\_\_,  
hereinafter called (Corporation, Partnership or Individual)

Principal, and

\_\_\_\_\_  
(Name of Surety)

\_\_\_\_\_  
(Address of Surety)

hereinafter called Surety, are held and firmly bound unto:

LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
200 East Main Street, Third Floor  
Lexington, Kentucky 40507

Obligee, hereinafter called OWNER, for the use and benefit of claimants as hereinafter defined, in the amount of \_\_\_\_\_ Dollars (\$\_\_\_\_\_) the payment whereof Principal and Surety bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, Principal by written agreement is entering into a Contract with OWNER for **Isaac Murphy Memorial art Garden Trailhead Project** in accordance with drawings and specifications prepared by: **Lexington-Fayette Urban County Government** which Contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Principal shall promptly make payment to all claimants as hereinafter defined for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions.

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that

part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the OWNER that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The OWNER shall not be liable for the payment of any costs or expenses of any such suit.
  
3. No suit or action shall be commenced hereunder by any claimant:
  - (a) Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: The Principal, the OWNER, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the Work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the Work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, OWNER, or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer.
  
  - (b) After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.
  
  - (c) Other than in a state court of competent jurisdiction in and for the county or other political subdivision of the state in which the project, or any part thereof, is situated, or in the United States District Court for the district in which the project, or any part thereof, is situated, and not elsewhere.
  
4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against aid improvement, whether or not claim for the amount of such lien be presented under and against this bond.

IN WITNESS WHEREOF, this instrument is executed in \_\_\_\_\_ counterparts,  
each one of

(number)

which shall be deemed an original, this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

ATTEST:

\_\_\_\_\_  
(Principal) Secretary

\_\_\_\_\_  
(Principal)

(SEAL)

BY: \_\_\_\_\_(s)

\_\_\_\_\_  
(Witness to Principal)

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

ATTEST:

\_\_\_\_\_  
(Surety) Secretary

\_\_\_\_\_  
(Surety)

(SEAL)

BY: \_\_\_\_\_  
(Attorney-in-Fact)

\_\_\_\_\_  
Witness as to Surety

\_\_\_\_\_  
(Address)

\_\_\_\_\_  
(Address)

NOTE: The number of executed counterparts of the bond shall coincide with the number of  
executed counterparts of the Contract.

END OF SECTION

PB-10

**SECTIONS A & B**

**GENERAL PROVISIONS & FINAL CLEANUP**

**A.1 KENTUCKY DEPARTMENT OF HIGHWAYS - SPECIFICATIONS**

Except as otherwise indicated on the Plans, and in the Contract Documents and Specifications, all items of Work including materials, construction methods, method of measurement and basis of payment shall comply with the current edition of the *Kentucky Department of Highways (KDOH) Standard Specifications for Road and Bridge Construction, 2012 Edition* and all current revisions.

With regard to the incorporation *Standard Specifications of KDOH* into these Technical Specifications, the following should be noted:

- Unless either the content implicitly or the Plans and Contract Documents and Specifications explicitly indicate otherwise, all KDOH references to "the Department" should be construed as being references to the Lexington-Fayette Urban County Government (LFUCG).
- Any discrepancy between the *Standard Specifications of KDOH* and the express intentions of Lexington-Fayette Urban County Government (i.e., Plans, Contract Documents and Specifications, and Lexington-Fayette Urban County Government Standard Drawings) shall be resolved in favor of the latter. (An example of one of the more common types of discrepancy is that which sometimes occurs with regard to the measurement of and payment for Work items.)

**A.2 ABBREVIATIONS**

Abbreviations of standards, codes, and publications used within these Specifications are as follows:

ASTM	American Society of Testing and Materials
ANSI	American National Standard Institute
KDOH	Kentucky Department of Highways, "Standard Specifications for Road and Bridge Construction", Current Edition

**A.3 SCOPE**

It is the intent that the CONTRACTOR, in accordance with the Plans, Contract Documents and Specifications, and other mutually acknowledged informational materials shall perform everything required to be performed and to furnish a complete, fully operating Work, and shall provide and furnish all labor, materials, necessary tools, expendable and non-expendable equipment and all transportation services required for the entire, proper, substantial completion of the Work, the cost of all of which shall be included in his bid.

The CONTRACTOR shall make all requisite excavations and foundation preparation for constructing sidewalks, incidental drainage structures, and retaining walls. The CONTRACTOR shall, where required, excavate and prepare subgrade for pavement widening and replacement. The CONTRACTOR shall provide all signs, lighting, barricades, flagmen and watchmen, and make provisions necessary to protect and maintain buildings, fences, trees, shrubs, poles, existing utility fixtures, watercourses, surface drains, or other structures in, on, across, or adjacent to the Work and repair all damage done to them where and as required. The CONTRACTOR shall perform all backfilling, restore walks, grass plots, flowers, shrubs, trees, paved surfaces, etc., damaged or disturbed and clear away all rubbish and surplus materials. The CONTRACTOR shall put in complete and acceptable working order the items covered by the Contract.

This Specification sets forth several items of Work or conditions which are required as integral parts of the successful completion of the Project. All items discussed herein under General Provisions are considered incidental to the overall accomplishment of the Project and no separate payment shall be made therefore unless otherwise noted elsewhere in these specifications.

#### **A.4 CONTRACTOR'S FACILITIES**

A.4.1 Sanitary Facilities: The CONTRACTOR shall provide and maintain all necessary sanitary facilities at the site, in accordance with all applicable regulations, and shall properly remove same at completion of the Project.

A.4.2 Utilities: The obtaining of all utilities which may be required for construction shall be the responsibility of the CONTRACTOR.

#### **A.5 CONTRACTOR'S FIELD OFFICE**

A CONTRACTOR'S Field Office is not required for this project.

#### **A.6 UTILITIES**

Utilities and Special Utility Notes are addressed in the Special Conditions.

#### **A.7 TESTING**

From time to time during the progress of the Work, the ENGINEER may require that testing be performed to determine the materials provided meet the specified requirements. The Lexington-Fayette Urban County Government will select a testing laboratory to perform the testing services. The cost of such services shall be the responsibility of the OWNER. If testing reveals defective materials or Work, the cost of said testing will become the responsibility of the CONTRACTOR.

A.7.1 Codes and Standards: Testing, when required, will be in accordance with all pertinent codes and regulations and with selected standards of the American Society for Testing and Materials.

A.7.2 Cooperation with the Testing Laboratory: Representatives of the testing laboratory shall have ready access to the Work at all times. The CONTRACTOR shall provide facilities for such access in order that the laboratory may properly perform its functions.

## **A.8 INSTALLATION REQUIREMENTS**

Manufactured articles, materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned as suggested by the respective manufacturers, unless otherwise specified herein or directed by the ENGINEER.

## **A.9 PROOF OF COMPLIANCE**

Whenever the Contract Documents require that a product be in accordance with Federal Specifications, ASTM Designations, ANSI Specifications, or other associations' standards, the CONTRACTOR shall present a certification from the manufacturer that the product complies therewith. When requested or specified, the CONTRACTOR shall submit supporting test data to substantiate compliance.

## **A.10 DUST CONTROL**

The CONTRACTOR shall be responsible for minimizing the generation of dust resulting from his operations at all times. The CONTRACTOR shall be required to maintain all excavations, embankments, stockpiles, roads, permanent access roads, plant sites, waste areas, and all other Work areas within or without the project boundaries free from dust which would cause a hazard or nuisance to others. Approved temporary methods of stabilization consisting of sprinkling, chemical treatment, light bituminous treatment, or similar methods will be permitted to control dust. Dust control shall be performed as the Work proceeds, and whenever a dust nuisance or hazard occurs.

## **A.11 REPAIR OF DAMAGE**

Any damage done to structures, fills, roadways, or other areas shall be repaired at the CONTRACTOR'S expense before final payment is made.

## **A.12 PROJECT EXTENT & SITE CONDITIONS**

The CONTRACTOR shall be responsible for satisfying himself as to the construction limits for the Project. The CONTRACTOR shall not establish Work, storage, or staging area outside the Project limits, unless otherwise directed or approved by the ENGINEER.



## Change Conditions Clauses (23SFR635.109)

### A.12.1

During the progress of the work, if subsurface or latent physical conditions are encountered at the site differing materially from those indicated in the contract or if unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the contract, are encountered at the site, the party discovering such conditions shall promptly notify the other party in writing of the specific differing conditions before the site is disturbed and before the affected work is performed.

### A.12.2

Upon written notification, the engineer will investigate the conditions, and if it is determined that the conditions materially differ and cause an increase or decrease in the cost or time required for the performance of any work under the contract, an adjustment, excluding anticipated profits, will be made and the contract modified in writing accordingly. The engineer will notify the contractor of the determination whether or not an adjustment of the contract is warranted.

### A.12.3

No contract adjustment which results in a benefit to the contractor will be allowed unless the contractor has provided the required written notice.

### A.12.4

No contract adjustment will be allowed under this clause for any effects caused on unchanged work.

## **A.13 WORKING HOURS**

All Work on this Project shall be restricted to daylight hours, but may be further restricted by the ENGINEER if required; except emergency Work, such as any necessary pumping, which may require 24-hour operation. If the CONTRACTOR elects to Work beyond the normal work week, he shall notify the ENGINEER of his intent as far in advance as possible. Lane closures for all streets with a functional classification above local shall occur only between the hours of 9:00 a.m. and 3:00 p.m., except as approved by the ENGINEER.

**A.14 GUARANTEE**

The CONTRACTOR shall assume responsibility for all workmanship and materials for a period of one year from final payment. Any Work found to be defective due to failure to comply with the provision and intent of the Contract Documents, Specifications, and Plans shall be replaced at the CONTRACTOR'S expense.

**A.15 PROPERTY CONSIDERATION**

Materials having a salvage value shall remain the property of the OWNER. Salvageable material rejected by the OWNER shall become the responsibility of the CONTRACTOR to dispose of in a proper manner subject to the approval of the ENGINEER.

**A.16 BLASTING**

Blasting is addressed in the Special Conditions.

**A.17 HAZARDOUS MATERIAL - GAS LINES**

The CONTRACTOR is advised to exercise caution in his operations on this project, regardless of whether the plans indicate or do not indicate the presence of any gas or hazardous materials carrying lines.

**A.18 DIVERSION OF STORM WATER**

Appropriate measures must be taken to sandbag the necessary manholes and to pump drainage around the area under construction. The CONTRACTOR is responsible for developing a plan to divert storm drainage around the construction area with the approval from the ENGINEER. Materials, labor, and all incidentals necessary to accomplish this diversion of storm drainage will be considered incidental to the contract.

**A.19 SEWER SERVICE MAINTENANCE**

This Work shall consist of maintaining existing sanitary sewer service to residents in the area during construction. Sewage is to be maintained by whatever means necessary. No surcharge of manholes will be allowed.

No separate payment will be made for Sewer Service Maintenance. Sewer Service Maintenance shall include all materials, equipment and labor necessary to maintain sewer service to residents during construction.

**A.20 PROJECT SIGNS**

Prior to construction, Project Signs shall be installed in accordance with the Standard Drawings. The exact location shall be established prior to the beginning of the work and shall remain visible during the entire length of the Project. After all Work is complete and

prior to final inspection, the signs shall be removed and disposed of properly. The cost and installation of the Project Signs is a pay item.

**B.1 FINAL CLEANUP SCOPE**

The Work will not be considered as complete, and final payment will not be made, until the right-of-way and all ground occupied by the CONTRACTOR in connection with the Work has been cleared of all rubbish, equipment, excess materials, temporary structures and weeds. Rubbish and all waste materials of whatever nature shall be disposed of in waste areas provided by the CONTRACTOR. All property, both public and private, which has been damaged in the execution of the Work, shall be replaced or restored in an acceptable manner. All ditches shall be drained and all space shall be left unobstructed and in such condition as acceptable to the ENGINEER.

**B.2 FINAL CLEANUP PAYMENT**

No direct payment will be made for final cleanup.

**SPECIFICATION INDEX**

**GENERAL**

SECTION 01100 SUMMARY

**SITework**

SECTION 02230 SITE CLEARING  
SECTION 02240 MAINTENANCE OF TRAFFIC  
SECTION 02250 CONSTRUCTION STAKING

SECTION 02300 EARTHWORK

SECTION 02510 FACILITY WATER DISTRIBUTION  
SECTION 02620 SUBDRAINAGE

SECTION 02630 STORM UTILITY DRAINAGE PIPING

SECTION 02741 HOT-MIXED ASPHALT PAVING  
SECTION 02751 CEMENT AND CONCRETE PAVING  
SECTION 02764 PAVEMENT AND JOINT SEALANTS  
SECTION 02770 ROCK WALLS AND STEPS  
SECTION 02780 UNIT PAVERS  
SECTION 02781 POROUS UNIT PAVING

SECTION 02870 SITE FURNISHINGS  
SECTION 02920 LAWNS AND GRASSES  
SECTION 02930 EXTERIOR PLANTS

SECTION 03366 WATER-BASED NON-REACTIVE STAINED CONCRETE

**ELECTRICAL**

SECTION 16000 GENERAL ELECTRICAL PROVISIONS  
SECTION 16050 BASIC ELECTRICAL MATERIALS AND METHODS

SECTION 16110 CONDUIT AND RACEWAYS  
SECTION 16120 CABLE, WIRE AND CONNECTORS  
SECTION 16130 ELECTRICAL ENCLOSURES, BOXES AND FITTINGS  
SECTION 16195 ELECTRICAL IDENTIFICATION

SECTION 16450 ELECTRICAL GROUNDING  
SECTION 16470 PANELBOARDS  
SECTION 16475 OVERCURRENT PROTECTIVE DEVICES

SECTION 16530 SITE LIGHTING



SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
  - 1. Project information.
  - 2. Work covered by Contract Documents.
  - 3. Access to site.
  - 4. Coordination with occupants.
  - 5. Work restrictions.
  - 6. Specification and drawing conventions.
  - 7. Miscellaneous provisions.

1.3 PROJECT INFORMATION

- A. Project Identification: Isaac Murphy Memorial Art Garden Trailhead
  - 1. Project Location: Lexington, Kentucky
- B. Owner: Lexington-Fayette Urban County Government
  - 1. Owner's Representative: Keith Lovan
- C. Landscape Architects/Engineers/Architect: Element Design

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and consists of the following:
  - 1. The preparation and installation of curbs, sidewalks, asphalt pavements, stone seat walls, unit pavers, storm drainage structures, site improvements and site lighting.
- B. Type of Contract:
  - 1. Project will be constructed under a single prime contract.

1.5 PHASED CONSTRUCTION

- A. The Work shall be conducted in one 120 continuous calendar day phase.

1. The Contract Time shall be **120 (One Hundred Twenty) Calendar Days** from the Notice to Proceed. The Notice to Proceed shall state the date on which the Contractor Time shall begin to run. The contractor has 48 days to order and acquire plant material and 30 days to install the plant material. The following is the approximate schedule:

July 1, 2014	Notice to Proceed
October 31, 2014	Final Completion

#### 1.6 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
  1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
  2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

#### 1.7 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.
  1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work on the existing site to normal business working hours, Monday through Friday, unless otherwise indicated.
  1. Weekend Hours: TBD
  2. Early Morning Hours: TBD
  3. Hours for Utility Shutdowns: TBD
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
  1. Notify Architect and Owner not less than two days in advance of proposed utility interruptions.
  2. Obtain Architect's and Owner's written permission before proceeding with utility interruptions.
- D. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.
- E. Employee Identification: Owner will provide identification tags for Contractor personnel working on Project site. Require personnel to use identification tags at all times.
- F. Employee Screening: Comply with Owner's requirements for drug and background screening of Contractor personnel working on Project site.
  1. Maintain list of approved screened personnel with Owner's representative.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
  - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
  - 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
  - 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
  - 2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.
  - 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

1.9 MISCELLANEOUS PROVISIONS

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01100





## SECTION 02230 - SITE CLEARING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Stripping and stockpiling topsoil.
  - 2. Removing above- and below-grade site improvements.
  - 3. Disconnecting, capping or sealing, and abandoning site utilities in place, removing site utilities.
  - 4. Temporary erosion and sedimentation control measures.
- B. Related Sections include the following:
  - 1. Division 2 Section "Earthwork" for soil materials, excavating, backfilling, and site grading.
  - 2. Division 2 Section "Lawns and Grasses" and "Exterior Plants" for finish grading including preparing and placing planting soil mixes and testing of topsoil material.

#### 1.3 DEFINITIONS

- A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches (50 mm) in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.

#### 1.4 MATERIAL OWNERSHIP

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

#### 1.5 SUBMITTALS

- A. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.
- B. Record drawings, according to Part IV "General Conditions" 5.14 Record Drawings, identifying and accurately locating capped utilities and other subsurface structural, electrical, and mechanical conditions.

#### 1.6 QUALITY ASSURANCE

- A. Pre-Construction Conference: Conduct conference at Project site to comply with requirements in Part IV "General Conditions" 2.7 Pre-Construction Conference.

## 1.7 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place.

## PART 2 - PRODUCTS

### 2.1 SOIL MATERIALS

- A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 2 Section "Earthwork."
  - 1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Protect existing site improvements to remain from damage during construction.
  - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

### 3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction, sediment and erosion control Drawings, a sediment and erosion control plan, specific to the site, that complies with EPA 832/R-92-005 or requirements of authorities having jurisdiction, whichever is more stringent.

- B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established.
- C. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

### 3.3 UTILITIES

- A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.
  - 1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
- B. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.
  - 1. Arrange with utility companies to shut off indicated utilities.
  - 2. Owner will arrange to shut off indicated utilities when requested by Contractor.
- C. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Architect's written permission.
- D. Excavate for and remove underground utilities indicated to be removed.
- E. Removal of underground utilities is included in Division 2 Sections covering site utilities.

### 3.4 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to whatever depths are encountered in a manner to prevent intermingling with underlying subsoil or other waste materials.
  - 1. Remove subsoil and nonsoil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil materials away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Limit height of topsoil stockpiles to 72 inches (1800 mm).
  - 2. Do not stockpile topsoil within tree protection zones.
  - 3. Dispose of excess topsoil as specified for waste material disposal.
  - 4. Stockpile surplus topsoil to allow for respreading deeper topsoil.

### 3.5 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.

- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
  - 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.
  - 2. Paint cut ends of steel reinforcement in concrete to remain to prevent corrosion.
  - 3. Uncharted or unsurveyed elements within the construction area required to be removed in order to facilitate new construction shall be removed at no expense to the owner.

3.6 DISPOSAL

- A. Disposal: Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. **Burning is not permitted on the Owner's property.**

END OF SECTION 02230

**SECTION 02240 – MAINTENANCE OF TRAFFIC**

**PART 1 - SCOPE**

- A. The CONTRACTOR shall maintain all local vehicular and pedestrian traffic along US 60 / Winchester Road & East Third Street in accordance with the approved KDOH Traffic Management Plan 07-0165-10 (Appendix C) during construction. The CONTRACTOR shall present a plan for maintenance of traffic, detours and traffic signs subject to the approval of the Lexington-Fayette Urban County Government Traffic Engineer prior to the beginning of Work. To the extent that it does not conflict with the content of the Plans, Contract Documents, and Specifications, Subsection 104.04 of KDOH Standard Specifications, current edition, is incorporated into this Technical Specification.

**PART 2 – TRAFFIC CONTROL COORDINATOR**

- A. The CONTRACTOR shall furnish a TRAFFIC CONTROL COORDINATOR during times/dates of traffic impact due to construction activities.

**PART 3 - MATERIALS**

- A. The CONTRACTOR shall furnish bridging plates or provide other means of maintaining safe access for pedestrians and service traffic to all businesses during normal working hours. Adequate personnel shall be available during daylight hours to assure maintenance. Metal trench covers, granular backfill or other suitable methods shall be utilized to maintain vehicular traffic through areas disturbed by construction operations.

**PART 4 - SIGNING**

- A. The CONTRACTOR shall furnish and erect suitable barricades, signs and other necessary devices to control, guide and safeguard traffic passing through or around the construction project. All such devices shall conform in all respects to the requirements of the Manual on Uniform Traffic Control Devices for Highway Construction and Maintenance Projects. The CONTRACTOR, before erecting any barricades or changing the location of one already placed, shall notify the ENGINEER at least three days prior to such contemplated erection or change, except in case of an emergency. In case of an emergency, the ENGINEER may direct the CONTRACTOR to immediately provide safety and warning devices to safeguard traffic. All night-time control devices requiring illumination shall be lighted every night during the entire period from sunset to sunrise. The CONTRACTOR will be held responsible for all damage to Work due to failure to provide barricades, signs, lights, and watchmen to protect it; and whenever evidence of such damage is found prior to acceptance, the ENGINEER may order the damaged portion removed and replaced by the CONTRACTOR at the CONTRACTOR'S expense. The responsibility remains the CONTRACTOR'S until the project is accepted. The LFUCG Road Improvement Signs shall also be included in this item.

**PART 5 - MEASUREMENT AND PAYMENT**

- A. Payment will be included in the Maintain and Control Traffic item of the bid and shall be per lump sum.



**SECTION 02250 – CONSTRUCTION STAKING**

**PART 1 - SCOPE**

- A. The CONTRACTOR will furnish and be responsible for all staking, including the initial staking. The CONTRACTOR shall bear the cost of all staking necessary to control and complete the Work according to the specifications to the lines and grades shown on the plans.
- B. The survey baseline has been previously established. Should, prior to beginning Work on this project, part or all of the baseline be destroyed, it will be the CONTRACTOR'S responsibility to re-establish this baseline from the reference points shown on the plans. It will be the CONTRACTOR'S responsibility to establish all office projection centerlines shown on the plans. Should, during the course of construction of this project, any construction stakes be destroyed by others, it will be the CONTRACTOR'S responsibility to reset the stakes at no additional cost to the OWNER.
- C. The CONTRACTOR'S staking party shall be under the general supervision of a Registered Land Surveyor. It shall be definitely understood that supervision of the resetting of construction staking is solely the responsibility of the CONTRACTOR and any errors or inaccuracies resulting from the operations of the construction staking party shall be corrected at no cost to the OWNER.
- D. It will be the OWNER'S responsibility to make all measurements for determining final quantities to be used for basis of final payment on items of Work.
- E. To the extent that it does not conflict with the content of the Plans and Contract Documents and Specifications, Section 201 of KDOH Standard Specifications, current edition, is incorporated into this technical specification.

**PART 2 - PAYMENT**

- A. Payment for Construction Staking shall be by lump sum.



Isaac Murphy Memorial Art Garden Trail Head  
Lexington, Kentucky

November 2013

CONSTRUCTION STAKING

02250 - 2

## SECTION 02300 - EARTHWORK

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Preparing subgrades for slabs-on-grade, pavements, lawns and grasses, and exterior plants.
  - 2. Excavating and backfilling for buildings and structures.
  - 3. Drainage course for slabs-on-grade.
  - 4. Subbase course for concrete pavements.
  - 5. Subbase and base course for asphalt paving.
  - 6. Subsurface drainage backfill for walls and trenches.
  - 7. Excavating and backfilling for utility trenches.
  - 8. Excavating and backfilling trenches for buried mechanical and electrical utilities and pits for buried utility structures.
- B. Related Sections include the following:
  - 1. Part III "Form of Proposal and Basis of Payment" Bid Schedule for Unit Price soil excavation/replacement on-site.
  - 2. Division 2 Section "Site Clearing" for temporary erosion and sedimentation control measures, site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
  - 3. Division 2 Section "Lawns and Grasses" for finish grading, including preparing and placing topsoil and planting soil for lawns.
  - 4. Division 2 Section "Exterior Plants" for planting bed establishment and tree and shrub pit excavation and planting.
  - 5. Divisions 2 and 16 Sections for installing underground electrical utilities and buried electrical structures.

#### 1.3 UNIT PRICES

- A. Unit prices for earthwork are included in Part III "Form of Proposal and Basis of Payment" Bid Schedule

#### 1.4 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
  - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
  - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.

- B. Base Course: Course placed between the subbase course and hot-mix asphalt paving.
  - C. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.
  - D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
  - E. Drainage Course: Course supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
  - F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
    - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for unit prices.
    - 2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.
  - G. Fill: Soil materials used to raise existing grades.
  - H. Rock: Rock excavation is not classified and includes removal of all materials to indicated lines, dimensions, and grades regardless of characteristics of material.
  - I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
  - J. Subbase Course: Course placed between the subgrade and base course for hot-mix asphalt pavement, or course placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
  - K. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.
  - L. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.
- 1.5 SUBMITTALS
- A. Product Data: For the following:
    - 1. Each type of plastic warning tape.
  - B. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
    - 1. Classification according to ASTM D 2487 of each on-site and borrow soil material proposed for fill and backfill.
    - 2. Laboratory compaction curve according to ASTM D 698, ASTM D 1557 for each on-site and borrow soil material proposed for fill and backfill.

- C. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by earthwork operations. Submit before earthwork begins.

#### 1.6 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: The Owner shall employ an independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.

#### 1.7 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated.
  - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Architect's written permission.
  - 3. Contact utility-locator service for area where Project is located before excavating.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

### PART 2 - PRODUCTS

#### 2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: See Material Test Reports.
- C. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- D. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.
- E. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch (37.5-mm) sieve and not more than 12 percent passing a No. 200 (0.075-mm) sieve.
- F. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch (25-mm) sieve and not more than 8 percent passing a No. 200 (0.075-mm) sieve.

- G. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch (37.5-mm) sieve and 0 to 5 percent passing a No. 8 (2.36-mm) sieve.
- H. Filter Material: Narrowly graded mixture of natural or crushed gravel, or crushed stone and natural sand; ASTM D 448; coarse-aggregate grading Size 67; with 100 percent passing a 1-inch (25-mm) sieve and 0 to 5 percent passing a No. 4 (4.75-mm) sieve.
- I. Sand: ASTM C 33; fine aggregate, natural, or manufactured sand.
- J. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

## 2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches (150 mm) wide and 4 mils (0.1 mm) thick, continuously inscribed with a description of the utility; colored as follows:
  - 1. Red: Electric.
  - 2. Yellow: Gas, oil, steam, and dangerous materials.
  - 3. Orange: Telephone and other communications.
  - 4. Blue: Water systems.
  - 5. Green: Sewer systems.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 2 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 2 Section "Site Clearing," during earthwork operations.

### 3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
  2. Remove rock to lines and grades indicated to permit installation of permanent construction.

3.4 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch (25 mm). If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
  2. Excavation for Water or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 inch (25 mm). Do not disturb bottom of excavations intended as bearing surfaces.

3.5 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.6 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
1. Excavate trenches to allow installation of top of pipe below frost line.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches (300 mm) higher than top of pipe or conduit, unless otherwise indicated.
1. Clearance: 12 inches (300 mm) each side of pipe or conduit or as indicated.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
1. For pipes and conduit less than 6 inches (150 mm) in nominal diameter and flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
  2. For pipes and conduit 6 inches (150 mm) or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe circumference. Fill depressions with tamped sand backfill.

3. Excavate trenches 6 inches (150 mm) deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

### 3.7 SUBGRADE INSPECTION

- A. Notify Landscape Architect/Owner when excavations have reached required subgrade.
- B. If Architect determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below the building slabs and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph (5 km/h).
  2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).
  3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

### 3.8 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi (17.2 MPa), may be used when approved by Architect.
  1. Fill unauthorized excavations under other construction or utility pipe as directed by Architect.

### 3.9 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

### 3.10 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
  1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
  2. Surveying locations of underground utilities for Record Documents.
  3. Testing and inspecting underground utilities.

4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.
7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

### 3.11 UTILITY TRENCH BACKFILL

A. Place backfill on subgrades free of mud, frost, snow, or ice.

B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.

C. Backfill trenches excavated under footings and within 18 inches (450 mm) of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Division 3 Section "Cast-in-Place Concrete."

D. Provide 4-inch- (100-mm-) thick, concrete-base slab support for piping or conduit less than 30 inches (750 mm) below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches (100 mm) of concrete before backfilling or placing roadway subbase.

E. Place and compact initial backfill of subbase material, free of particles larger than 1 inch (25 mm) in any dimension, to a height of 12 inches (300 mm) over the utility pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

F. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of 12 inches (300 mm) over the utility pipe or conduit.

G. Backfill voids with satisfactory soil while installing and removing shoring and bracing.

H. Place and compact final backfill of satisfactory soil to final subgrade elevation.

I. Controlled Low-Strength Material: Place final backfill of controlled low-strength material to final subgrade elevation.

J. Install warning tape directly above utilities, 12 inches (300 mm) below finished grade, except 6 inches (150 mm) below subgrade under pavements and slabs.

### 3.12 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:

1. Under grass and planted areas, use satisfactory soil material.
2. Under walks and pavements, use satisfactory soil material.



3. Under steps and ramps, use engineered fill.
4. Under building slabs, use engineered fill.

C. Place soil fill on subgrades free of mud, frost, snow, or ice.

### 3.13 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

### 3.14 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches (200 mm) in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches (100 mm) in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698, ASTM D 1557:

1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches (300 mm) of existing subgrade and each layer of backfill or fill soil material at 98 percent.
2. Under walkways, scarify and recompact top 6 inches (150 mm) below subgrade and compact each layer of backfill or fill soil material at 98 percent.
3. Under lawn or unpaved areas, scarify and recompact top 6 inches (150 mm) below subgrade and compact each layer of backfill or fill soil material at 98 percent.
4. For utility trenches, compact each layer of initial and final backfill soil material at 95 percent.

### 3.15 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between adjacent existing grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Lawn or Unpaved Areas: Plus or minus 1 inch (25 mm).
2. Walks: Plus or minus 1 inch (25 mm).
3. Pavements: Plus or minus 1/2 inch (13 mm).

- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch (13 mm) when tested with a 10-foot (3-m) straightedge.

### 3.16 SUBBASE AND BASE COURSES

- A. Place subbase and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase and base course under pavements and walks as follows:
  - 1. Install separation geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
  - 2. Place base course material over subbase course under hot-mix asphalt pavement.
  - 3. Shape subbase and base course to required crown elevations and cross-slope grades.
  - 4. Place subbase and base course 6 inches (150 mm) or less in compacted thickness in a single layer.
  - 5. Place subbase and base course that exceeds 6 inches (150 mm) in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches (150 mm) thick or less than 3 inches (75 mm) thick.
  - 6. Compact subbase and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 98 percent of maximum dry unit weight according to ASTM D 698.
- C. Pavement Shoulders: Place shoulders along edges of subbase and base course to prevent lateral movement. Construct shoulders, at least 12 inches (300 mm) wide, of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 98 percent of maximum dry unit weight according to ASTM D 698.

### 3.17 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Architect.
- D. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
  - 1. Paved Areas: At subgrade and at each compacted fill and backfill layer, at least 1 test for every 5000 sq. ft. or less of paved area or building slab, but in no case fewer than 2 tests.
  - 2. Trench Backfill: At each compacted initial and final backfill layer, at least 1 test for each 150 feet (46 m) or less of trench length, but no fewer than 2 tests.
- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

3.18 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 02300

## SECTION 02510 – FACILITY WATER DISTRIBUTION

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes water-distribution piping and related components outside the building for water service
- B. Utility-furnished products include water meters that will be furnished to the site, ready for installation.

#### 1.3 DEFINITIONS

- A. PVC: Polyvinyl chloride plastic.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Detail plastic water meter vault assemblies, flush box hydrants, drinking fountains, and pipe. Indicate dimensions, method of field assembly, and components.
- C. Coordination Drawings: For piping and specialties including relation to other services in same area, drawn to scale. Show piping and specialty sizes and valves, meter and specialty locations, and elevations.
- D. Operation and Maintenance Data: For water valves and specialties to include in emergency, operation, and maintenance manuals.

#### 1.5 QUALITY ASSURANCE

- A. Regulatory Requirements:
  - 1. Comply with requirements of utility company supplying water. Include tapping of water mains and backflow prevention.
  - 2. Comply with standards of authorities having jurisdiction for potable-water-service piping, including materials, installation, testing, and disinfection.
  - 3. Comply with standards of authorities having jurisdiction for fire-suppression water-service piping, including materials, hose threads, installation, and testing.

- B. Piping materials shall bear label, stamp, or other markings of specified testing agency.
- C. Comply with ASTM F 645 for selection, design, and installation of thermoplastic water piping.
- D. Comply with FMG's "Approval Guide" or UL's "Fire Protection Equipment Directory" for fire-service-main products.
  - 1. Comply with NSF 14 for plastic potable-water-service piping. Include marking "NSF-pw" on piping.
  - 2. Comply with NSF 61 for materials for water-service piping and specialties for domestic water.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Preparation for Transport: Prepare valves, including fire hydrants, according to the following:
  - 1. Ensure that valves are dry and internally protected against rust and corrosion.
  - 2. Protect valves against damage to threaded ends and flange faces.
  - 3. Set valves in best position for handling. Set valves closed to prevent rattling.
- B. During Storage: Use precautions for valves, including fire hydrants, according to the following:
  - 1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
  - 2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.
- C. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.
- D. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.
- E. Protect flanges, fittings, and specialties from moisture and dirt.
- F. Store plastic piping protected from direct sunlight. Support to prevent sagging and bending.

#### 1.7 PROJECT CONDITIONS

- A. Interruption of Existing Water-Distribution Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary water-distribution service according to requirements indicated:
  - 1. Notify Architect no fewer than two days in advance of proposed interruption of service.
  - 2. Do not proceed with interruption of water-distribution service without Architect's written permission.

1.8 COORDINATION

- A. Coordinate connection to water main with utility company.

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

- A. Soft Copper Tube: ASTM B 88, Type K and ASTM B 88, Type L, water tube, annealed temper.
  - 1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.
  - 2. Copper, Pressure-Seal Fittings:
    - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      - 1) Viega; Plumbing & Heating Systems.
    - 2. NPS 2 and Smaller: Wrought-copper fitting with EPDM O-ring seal in each end.
- B. Hard Copper Tube: ASTM B 88, Type K and ASTM B 88, Type L, water tube, drawn temper.
  - 1. Copper, Solder-Joint Fittings: ASME B16.18, cast-copper-alloy or ASME B16.22, wrought-copper, solder-joint pressure type. Furnish only wrought-copper fittings if indicated.
  - 2. Copper, Pressure-Seal Fittings:
    - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      - 1) Viega; Plumbing & Heating Systems.
    - 2. NPS 2 and Smaller: Wrought-copper fitting with EPDM O-ring seal in each end.
- C. Bronze Flanges: ASME B16.24, Class 150, with solder-joint end. Furnish Class 300 flanges if required to match piping.
- D. Copper Unions: MSS SP-123, cast-copper-alloy, hexagonal-stock body with ball-and-socket, metal-to-metal seating surfaces, and solder-joint or threaded ends.

2.2 PVC PIPE AND FITTINGS

- A. PVC, Schedule 40 Pipe: ASTM D 1785.

1. PVC, Schedule 40 Socket Fittings: ASTM D 2466.

B. PVC, Schedule 80 Pipe: ASTM D 1785.

1. PVC, Schedule 80 Socket Fittings: ASTM D 2467.
2. PVC, Schedule 80 Threaded Fittings: ASTM D 2464.

2.3 WATER FOUNTAINS

A. Conform to ASTM B60 and B61 Lead Free Castings

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following, or approved equal:

- 1) Murdock
- 2) Josam
- 3) Smith

2. Description

- a. Push-button operated, incorporating a replaceable cartridge.
- b. Supply line shall be 3/8 inch poly-braid tubing,
- c. FDA approved for drinking water and able to withstand 300 psi pressure.

2.4 FLUSH BOX HYDRANTS

A. Conform to ASTM B60 and B61 Lead Free Castings

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following, or approved equal:

- 1) Murdock
- 2) Josam
- 3) Smith

2. Description

- a. Cast iron box with bronze or aluminum locking lid mounted flush with ground surface.

## 2.5 JOINING MATERIALS

- A. Brazing Filler Metals: AWS A5.8, BCuP Series.
- B. Plastic Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.

## 2.6 PIPING SPECIALTIES

- A. Transition Fittings: Manufactured fitting or coupling same size as, with pressure rating at least equal to and ends compatible with, piping to be joined.
- B. Dielectric Fittings:
  - 1. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
  - 2. Dielectric Unions:
    - 1. Description:
      - 1) Standard: ASSE 1079.
      - 2) Pressure Rating: 150 psig minimum at 180 deg F
      - 3) End Connections: Solder-joint copper alloy and threaded ferrous.
  - 3. Dielectric Nipples:
    - 1. Description:
      - 1) Standard: IAPMO PS 66
      - 2) Electroplated steel nipple. complying with ASTM F 1545.
      - 3) Pressure Rating: 300 psig at 225 deg F
      - 4) End Connections: Male threaded or grooved.
      - 5) Lining: Inert and noncorrosive, propylene.

## 2.7 CHECK VALVES

- A. AWWA Check Valves:
  - 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following, or approved equal:
    - 1. American AVK Co.; Valves & Fittings Div.
    - 2. American Cast Iron Pipe Co.; American Flow Control Div.
    - 3. APCO Willamette; Valve and Primer Corporation.
    - 4. Crane Co.; Crane Valve Group; Crane Valves.
    - 5. Crane Co.; Crane Valve Group; Stockham Div.
    - 6. McWane, Inc.; Clow Valve Co. Div. (Oskaloosa).
    - 7. McWane, Inc.; Kennedy Valve Div.



8. McWane, Inc.; M & H Valve Company Div.
  9. Mueller Co.; Water Products Div.
  10. NIBCO INC.
  11. Watts Water Technologies, Inc.
2. Description: Swing-check type with resilient seat. Include interior coating according to AWWA C550 and ends to match piping.
1. Standard: AWWA C508.
  2. Pressure Rating: 175 psig

## 2.8 CORPORATION VALVES AND CURB VALVES

### A. Manufacturers:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following, or approved equal:
  1. Amcast Industrial Corporation; Lee Brass Co.
  2. Ford Meter Box Company, Inc. (The); Pipe Products Div.
  3. Jones, James Company.
  4. Master Meter, Inc.
  5. McDonald, A. Y. Mfg. Co.
  6. Mueller Co.; Water Products Div.
  7. Red Hed Manufacturing & Supply.

B. Curb Valves: Comply with AWWA C800. Include bronze body, ground-key plug or ball, and wide tee head, with inlet and outlet matching service piping material.

C. Service Boxes for Curb Valves: Similar to AWWA M44 requirements for cast-iron valve boxes. Include cast-iron telescoping top section of length required for depth of burial of valve, plug with lettering "WATER," and bottom section with base that fits over curb valve and with a barrel approximately 3 inches in diameter.

1. Shutoff Rods: Steel, tee-handle with one pointed end, stem of length to operate deepest buried valve, and slotted end matching curb valve.

## 2.9 WATER METERS

A. Water meters will be furnished by utility company.

## 2.10 BACKFLOW PREVENTERS

### A. Double-Check, Backflow-Prevention Assemblies:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following, or approved equal:

1. Ames Fire & Waterworks; a division of Watts Regulator Co.
  2. Conbraco Industries, Inc.
  3. FEBCO; SPX Valves & Controls.
  4. Flomatic Corporation.
  5. Watts Water Technologies, Inc.
  6. Wilkins; a Zurn company.
2. Standard: AWWA C510.
  3. Operation: Continuous-pressure applications, unless otherwise indicated.
  4. Pressure Loss: 5 psig maximum, through middle 1/3 of flow range.
  5. Size: NP 1 and NP 3/4
  6. Body: Bronze for NPS 2 and smaller;
  7. End Connections: Threaded for NPS 2 and smaller
  8. Configuration: Designed for horizontal, straight through flow.
  9. Accessories: Ball valves with threaded ends on inlet and outlet of NPS 2 and smaller;

B. Backflow Preventer Test Kits:

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, the following (or approved equal):
  1. Conbraco Industries, Inc.
  2. FEBCO; SPX Valves & Controls.
  3. Flomatic Corporation.
  4. Watts Water Technologies, Inc.
  5. Wilkins; a Zurn company.
2. Description: Factory calibrated, with gages, fittings, hoses, and carrying case with test-procedure instructions.

2.11 WATER METER BOXES

- A. Description: Cast-iron body and cover for disc-type water meter, with lettering "WATER METER" in cover; and with slotted, open-bottom base section of length to fit over service piping.
- B. Description: Cast-iron body and double cover for disc-type water meter, with lettering "WATER METER" in top cover; and with separate inner cover; air space between covers; and slotted, open-bottom base section of length to fit over service piping.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Refer to Division 2 Section "Earthwork" for excavating, trenching, and backfilling.

### 3.2 PIPING APPLICATIONS

- A. General: Use pipe, fittings, and joining methods for piping systems according to the following applications.
- B. Transition couplings and special fittings with pressure ratings at least equal to piping pressure rating may be used, unless otherwise indicated.
- C. Do not use flanges or unions for underground piping.
- D. Flanges, unions, grooved-end-pipe couplings, and special fittings may be used, instead of joints indicated, on aboveground piping and piping in vaults.
- E. Underground water-service piping NPS 3/4 to NPS 3 shall be any of the following:
  - 1. Soft copper tube, ASTM B 88, Type K or ASTM B 88, Type L wrought-copper, solder-joint fittings; and brazed copper, pressure-seal fittings; and pressure-sealed joints.
  - 2. PVC, Schedule 40 pipe; PVC, Schedule 40 socket fittings; and solvent-cemented joints.
- F. Water Meter Box Water-Service Piping NPS 3/4 to NPS 2 shall be same as underground water-service piping.
- G. Vault Water-Service Piping NPS 3/4 to NPS 3 shall be any of the following:
  - 1. Hard copper tube, ASTM B 88, Type K ; wrought-copper, solder-joint fittings; and brazed copper, pressure-seal fittings;.
  - 2. PVC, Schedule 80 pipe; PVC, Schedule 80 threaded fittings; and threaded joints.
  - 3. Hard copper tube, ASTM B 88, Type K; wrought-copper, solder-joint fittings; and brazed joints.

### 3.3 PIPING INSTALLATION

- 1. Install PE corrosion-protection encasement according to ASTM A 674 or AWWA C105.
- 2. Install copper tube and fittings according to CDA's "Copper Tube Handbook."
- B. Install ductile-iron, water-service piping according to AWWA C600 and AWWA M41.
- C. Install PVC, AWWA pipe according to ASTM F 645 and AWWA M23.
- D. Bury piping with depth of cover over top at least 36 inches , with top at least 12 inches below level of maximum frost penetration, and according to the following:
  - 1. Under Driveways: With at least 36 inches cover over top.

### 3.4 JOINT CONSTRUCTION

- A. Make pipe joints according to the following:

1. Copper-Tubing, Pressure-Sealed Joints: Use proprietary crimping tool and procedure recommended by copper, pressure-seal-fitting manufacturer.
2. PVC Piping Gasketed Joints: Use joining materials according to AWWA C900. Construct joints with elastomeric seals and lubricant according to ASTM D 2774 or ASTM D 3139 and pipe manufacturer's written instructions.
3. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
  1. Dielectric Fittings for NPS 2 and smaller: Use dielectric unions.

### 3.5 ANCHORAGE INSTALLATION

- A. Anchorage, General: Install water-distribution piping with restrained joints. Anchorages and restrained-joint types that may be used include the following:
  1. Concrete thrust blocks.
- B. Install anchorages for tees, plugs and caps, bends, crosses, valves, and hydrant branches. Include anchorages for the following piping systems:
  1. Gasketed-Joint, PVC Water-Service Piping: According to AWWA M23.

### 3.6 BACKFLOW PREVENTER INSTALLATION

- A. Install backflow preventers of type, size, and capacity indicated. Include valves and test cocks. Install according to requirements of plumbing and health department and authorities having jurisdiction.
- B. Do not install backflow preventers that have relief drain in vault or in other spaces subject to flooding.
- C. Do not install bypass piping around backflow preventers.

### 3.7 WATER METER BOX INSTALLATION

- A. Install water meter boxes in paved areas flush with surface.
- B. Install water meter boxes in grass or earth areas with top 2 inches above surface.

### 3.8 WATER FOUNTAINS

- A. Pedestal shall be a heavy duty iron casting and base of pedestal shall have four mounting holes. Arm shall be an aluminum-magnesium casting. Arm shall extend a minimum of 19 inches from pedestal and have a clearance of 27 inches from grade level to bowl support.
- B. Pedestal and arm shall be finished with a heavy grade of oil-based brown enamel. Bowl shall be an octagonal, powder-coated, solid brass casting.
- C. Drain opening in bowl shall be adequately protected from stoppage or vandalism by a chrome-plated solid brass casting.

- D. Bubbler shall be chrome-plated solid brass casting with angle stream outlet near outer edge of bowl and above bowl rim. Mouth guard shall be powder-coated solid brass

### 3.9 FLUSH BOX HYDRANT

- A. Unit is to be installed with top of unit flush with surrounding surface and shall be furnished with hinged, locking lid.
- B. Valve shall be located under ground at specified depth of bury to ensure freeze resistant capability. Hydrant box and lid shall be fabricated of heavy-duty, bronze castings.
- C. Valve, stirrup and hose outlet shall be fabricated of solid-brass castings. All solid-brass castings shall conform to ASTM standards B61 and B62. Lead-free castings are used in all waterways. Outer casing and internal water supply line shall be fabricated of galvanized steel pipe.
- D. Cast-aluminum key shall be furnished loose. Key shall be used to lock and unlock lid and to operate hydrant. Unit shall be furnished with 3/4" water supply bottom connection.
- E. Contractor shall ensure that hydrant is installed properly.

### 3.10 CONNECTIONS

### 3.11 FIELD QUALITY CONTROL

- A. Piping Tests: Conduct piping tests before joints are covered and after concrete thrust blocks have hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water.
- B. Hydrostatic Tests: Test at not less than one-and-one-half times working pressure for two hours.
  - 1. Increase pressure in 50-psig increments and inspect each joint between increments. Hold at test pressure for 1 hour; decrease to 0 psig . Slowly increase again to test pressure and hold for 1 more hour. Maximum allowable leakage is 2 quarts per hour per 100 joints. Remake leaking joints with new materials and repeat test until leakage is within allowed limits.
- C. Prepare reports of testing activities.

### 3.12 IDENTIFICATION

- A. Install continuous underground detectable warning tape during backfilling of trench for underground water-distribution piping. Locate below finished grade, directly over piping. Underground warning tapes are specified in Division 2 Section "Earthwork."

3.13 CLEANING

- A. Clean and disinfect water-distribution piping as follows:
1. Purge new water-distribution piping systems and parts of existing systems that have been altered, extended, or repaired before use.
  2. Use purging and disinfecting procedure prescribed by authorities having jurisdiction or, if method is not prescribed by authorities having jurisdiction, use procedure described in AWWA C651 or do as follows:
    1. Fill system or part of system with water/chlorine solution containing at least 50 ppm of chlorine; isolate and allow to stand for 24 hours.
    2. Drain system or part of system of previous solution and refill with water/chlorine solution containing at least 200 ppm of chlorine; isolate and allow to stand for 3 hours.
    3. After standing time, flush system with clean, potable water until no chlorine remains in water coming from system.
    4. Submit water samples in sterile bottles to authorities having jurisdiction. Repeat procedure if biological examination shows evidence of contamination.
- B. Prepare reports of purging and disinfecting activities.

**END OF SECTION 02510**

Isaac Murphy Memorial Art Garden Trail Head  
Lexington, Kentucky

November 2013

## SECTION 02620 - SUBDRAINAGE

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes subdrainage systems for the following:
  - 1. Retaining walls.
  - 2. Porous pavement areas.

#### 1.3 RELATED WORK

- A. Refer to Division 2 Section "Storm Utility Drainage Piping" for pipe outlet structures.
- B. Refer to Division 2 Section "Earthwork" for excavation, trenching, backfilling, compaction and quality control testing requirements.

#### 1.4 DEFINITIONS

- A. ABS: Acrylonitrile-butadiene-styrene plastic.
- B. HDPE: High-density polyethylene plastic.
- C. PE: Polyethylene plastic.
- D. PP: Polypropylene plastic.
- E. PS: Polystyrene plastic.
- F. PVC: Polyvinyl chloride plastic.
- G. Subdrainage: Drainage system that collects and removes subsurface or seepage water.

#### 1.5 SUBMITTALS

- A. Product Data: For the following:
  - 1. Perforated-wall pipe and fittings.
  - 2. Solid-wall pipe and fittings.
  - 3. Geotextile filter fabrics.



## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
  2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

### 2.2 PIPING MATERIALS

- A. Refer to the "Piping Applications" Article in Part 3 for applications of pipe, tube, fitting, and joining materials.

### 2.3 PERFORATED-WALL PIPES AND FITTINGS

- A. Perforated PE Pipe and Fittings:
1. NPS 6 and Smaller: ASTM F 405 or AASHTO M 252, Type CP; corrugated, for coupled joints.
  2. NPS 8 and Larger: ASTM F 667; AASHTO M 252, Type CP; or AASHTO M 294, Type CP; corrugated; for coupled joints.
  3. Couplings: Manufacturer's standard, band type.

### 2.4 SOLID-WALL PIPES AND FITTINGS

- A. PE Pipe and Fittings: AASHTO M 294, Type S, corrugated, with smooth waterway, for coupled joints.

### 2.5 SPECIAL PIPE COUPLINGS

- A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined and corrosion-resistant metal tension band and tightening mechanism on each end.
1. Sleeve Materials:
    - a. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
    - b. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.
  2. Unshielded Flexible Couplings: Elastomeric sleeve with stainless-steel shear ring and corrosion-resistant metal tension band and tightening mechanism on each end.
  3. Shielded Flexible Couplings: ASTM C 1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant metal tension band and tightening mechanism on each end.

2.6 CLEANOUTS

- A. Cast Iron Cleanouts: ASME A112.36.2M; with round-flanged, cast-iron housing with clamping device; and scoriated, Medium-Duty Loading class, cast iron cover in lawn areas and polished bronze cover in pedestrian pavement areas. Include countersunk, brass cleanout plug.

2.7 SOIL MATERIALS

- A. Backfill, drainage course, impervious fill, and satisfactory soil materials are specified in Division 2 Section "Earthwork."

2.8 GEOTEXTILE FILTER FABRICS

- A. Description: Fabric of PP or polyester fibers or combination of both, with flow rate range from 110 to 330 gpm/sq. ft. when tested according to ASTM D 4491.
  - 1. Structure Type: Nonwoven, needle-punched continuous filament or woven, monofilament or multifilament.
  - 2. Style(s): Flat.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces and areas for suitable conditions where subdrainage systems are to be installed.
- B. If subdrainage is required for landscaping, locate and mark existing utilities, underground structures, and aboveground obstructions before beginning installation and avoid disruption and damage of services.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 EARTHWORK

- A. Excavating, trenching, and backfilling are specified in Division 2 Section "Earthwork."

3.3 PIPING APPLICATIONS

- A. Underground Subdrainage Piping:
  - 1. Perforated PE pipe and fittings, couplings, and coupled joints.

3.4 CLEANOUT APPLICATIONS

- A. In Underground Subdrainage Piping:
  - 1. At Grade in Earth: Cast-iron cleanouts.
  - 2. At Grade in Paved Areas: Cast-iron cleanouts.

### 3.5 RETAINING-WALL DRAINAGE INSTALLATION

- A. Lay flat-style geotextile filter fabric in trench and overlap trench sides.
- B. Place supporting layer of drainage course over compacted subgrade to compacted depth of not less than 4 inches.
- C. Install drainage piping as indicated in Part 3 "Piping Installation" Article for retaining-wall subdrainage.
- D. Add drainage course to width of at least 6 inches on side away from wall and to top of pipe to perform tests.
- E. After satisfactory testing, cover drainage piping to width of at least 6 inches on side away from footing and above top of pipe to within 12 inches of finish grade.
- F. Place drainage course in layers not exceeding 3 inches in loose depth; compact each layer placed and wrap top of drainage course with flat-style geotextile filter fabric.
- G. Place layer of flat-style geotextile filter fabric over top of drainage course, overlapping edges at least 4 inches.
- H. Fill to Grade: Place satisfactory soil fill material over compacted drainage course . Place material in loose-depth layers not exceeding 6 inches. Thoroughly compact each layer. Fill to finish grade.

### 3.6 LANDSCAPING DRAINAGE INSTALLATION

- A. Provide trench width to allow installation of drainage conduit. Grade bottom of trench excavations to required slope, and compact to firm, solid bed for drainage system.
- B. Lay flat-style geotextile filter fabric in trench and overlap trench sides.
- C. Place supporting layer of drainage course over compacted subgrade and geotextile filter fabric, to compacted depth of not less than 4 inches.
- D. Install drainage conduits as indicated in Part 3 "Piping Installation" Article for landscaping subdrainage with horizontal distance of at least 6 inches between conduit and trench walls. Wrap drainage conduits without integral geotextile filter fabric with flat-style geotextile filter fabric before installation. Connect fabric sections with adhesive or tape.
- E. Add drainage course to top of drainage conduits.
- F. After satisfactory testing, cover drainage conduit to within 12 inches of finish grade.
- G. Install drainage course and wrap top of drainage course with flat-style geotextile filter fabric.
- H. Place layer of flat-style geotextile filter fabric over top of drainage course, overlapping edges at least 4 inches.
- I. Fill to Grade: Place satisfactory soil fill material over drainage course. Place material in loose-depth layers not exceeding 6 inches. Thoroughly compact each layer. Fill to finish grade.

### 3.7 PIPING INSTALLATION

- A. Install piping beginning at low points of system, true to grades and alignment indicated, with unbroken continuity of invert. Bed piping with full bearing in filtering material. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions and other requirements indicated.
  - 1. Retaining-Wall Subdrainage: When water discharges at end of wall into stormwater piping system, install piping pitched down in direction of flow, at a minimum slope of 0.5 percent and with a minimum cover of 36 inches, unless otherwise indicated. However, when water discharges through wall weep holes, pipe may be installed with a minimum slope of zero percent.
  - 2. Landscaping Subdrainage: Install piping pitched down in direction of flow, at a minimum slope of 0.5 percent and with a minimum cover of 24 inches, unless otherwise indicated.
  - 3. Lay perforated pipe with perforations down.
  - 4. Excavate recesses in trench bottom for bell ends of pipe. Lay pipe with bells facing upslope and with spigot end entered fully into adjacent bell.
- B. Use increasers, reducers, and couplings made for different sizes or materials of pipes and fittings being connected. Reduction of pipe size in direction of flow is prohibited.
- C. Install PE piping according to ASTM D 2321.

### 3.8 PIPE JOINT CONSTRUCTION

- A. Join perforated, PE pipe and fittings with couplings for soil-tight joints according to AASHTO's "Standard Specifications for Highway Bridges," Division II, Section 26.4.2.4, "Joint Properties"; or according to ASTM D 2321.
- B. Special Pipe Couplings: Join piping made of different materials and dimensions with special couplings made for this application. Use couplings that are compatible with and fit materials and dimensions of both pipes.

### 3.9 CLEANOUT INSTALLATION

- A. Cleanouts for Retaining-Wall and Landscaping Subdrainage:
  - 1. Install cleanouts from piping to grade. Locate cleanouts at beginning of piping run and at changes in direction. Install fittings so cleanouts open in direction of flow in piping.
  - 2. In vehicular-traffic areas, use NPS 4 cast-iron soil pipe and fittings for piping branch fittings and riser extensions to cleanout. Set cleanout frames and covers in a cast-in-place concrete anchor, 18 by 18 by 12 inches in depth. Set top of cleanout flush with grade. Cast-iron pipe may also be used for cleanouts in nonvehicular-traffic areas.
  - 3. In nonvehicular-traffic areas, use NPS 4 cast-iron pipe and fittings for piping branch fittings and riser extensions to cleanout. Set cleanout frames and covers in a cast-in-place concrete anchor, 12 by 12 by 4 inches in depth. Set top of cleanout plug 1 inch above grade.

### 3.10 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect low elevations of subdrainage system to solid-wall-piping storm drainage system.

3.11 IDENTIFICATION

- A. Materials and their installation are specified in Division 2 Section "Earthwork." Arrange for installation of green warning tapes directly over piping.
  - 1. Install detectable warning tape over nonferrous piping and over edges of underground structures.

3.12 FIELD QUALITY CONTROL

- A. Testing: After installing drainage course to top of piping, test drain piping with water to ensure free flow before backfilling. Remove obstructions, replace damaged components, and repeat test until results are satisfactory.

3.13 CLEANING

- A. Clear interior of installed piping and structures of dirt and other superfluous material as work progresses. Maintain swab or drag in piping and pull past each joint as it is completed. Place plugs in ends of uncompleted pipe at end of each day or when work stops.

END OF SECTION 02620

## SECTION 02630 - STORM UTILITY DRAINAGE PIPING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 01 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes gravity-flow, nonpressure storm drainage outside the building, with the following components:
  - 1. Stormwater Pipes.

#### 1.3 DEFINITIONS

- A. HDPE: High-Density Polyethylene plastic.
- B. PVC: Polyvinyl chloride plastic.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Gravity-Flow, Nonpressure, Drainage-Piping Pressure Rating: 10-foot head of water. Pipe joints shall be at least silttight, unless otherwise indicated.

#### 1.5 SUBMITTALS

- A. Product Data: For the following:
  - 1. Stormwater Pipes.
- B. Shop Drawings: For the following:
  - 1. Stormwater Pipes and Connectors. Include plans, elevations, sections, details.
- C. Field quality-control test reports.

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic pipe, and fittings in direct sunlight.
- B. Protect pipe, pipe fittings, and seals from dirt and damage.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
  2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

### 2.2 PIPING MATERIALS

- A. Refer to Part 3 "Piping Applications" Article for applications of pipe, fitting, and joining materials.

### 2.3 HDPE PIPE AND FITTINGS

- A. Corrugated PE Drainage Pipe and Fittings NPS 10 and Smaller: AASHTO M 252M, Type S, with smooth waterway for coupling joints.
1. Silt-tight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with tube and fittings.
- B. Perforated Pipe and Fittings NPS 12 to NPS 48: AASHTO M 294M, Type S, with smooth waterway for coupling joints.
1. Silt-tight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with pipe and fittings.

### 2.4 NONPRESSURE-TYPE PIPE COUPLINGS

- A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground non-pressure piping. Include ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.
- B. Sleeve Materials:
1. For Plastic Pipes: ASTM F 477, elastomeric seal or ASTM D 5926, PVC.
  2. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.
- C. Shielded Flexible Couplings: ASTM C 1460, elastomeric or rubber sleeve with full-length, corrosion-resistant outer shield and corrosion-resistant-metal tension band and tightening mechanism on each end.
1. Available Manufacturers, or approved equal:

- a. Cascade Waterworks Mfg.
  - b. Dallas Specialty & Mfg. Co.
  - c. Mission Rubber Company; a division of MCP Industries, Inc.
- D. Ring-Type Flexible Couplings: Elastomeric compression seal with dimensions to fit inside bell of larger pipe and for spigot of smaller pipe to fit inside ring.
1. Available Manufacturers, or approved equal:
    - a. Fernco Inc.
    - b. Logan Clay Products Company (The).
    - c. Mission Rubber Company; a division of MCP Industries, Inc.

## 2.5 CONCRETE

- A. General: Cast-in-place concrete according to ACI 318/318R, ACI 350R, and the following:
1. Cement: ASTM C 150, Type II.
  2. Fine Aggregate: ASTM C 33, sand.
  3. Coarse Aggregate: ASTM C 33, crushed gravel.
  4. Water: Potable.
- B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water-cementitious materials ratio.
1. Reinforcement Fabric: ASTM A 185, steel, welded wire fabric, plain.
  2. Reinforcement Bars: ASTM A 615/A 615M, Grade 60, deformed steel.

## PART 3 - EXECUTION

### 3.1 EARTHWORK

- A. Excavation, trenching, and backfilling are specified in Division 31 Section "Earth Moving."

### 3.2 PIPING APPLICATIONS

- A. Pipe couplings and special pipe fittings with pressure ratings at least equal to piping rating may be used in applications below, unless otherwise indicated.
1. Use nonpressure-type flexible couplings where required to join gravity-flow, nonpressure sewer piping, unless otherwise indicated.
    - a. Shielded flexible or rigid couplings for same or minor difference OD pipes.
- B. Gravity-Flow, Nonpressure Sewer Piping: Use the following pipe materials for each size range:
1. NPS 4 and NPS 6: Corrugated PE drainage pipe and fittings, silttight couplings, and coupled joints.
  2. NPS 8 to NPS 12: Corrugated PE drainage pipe and fittings in NPS 8 and NPS 10 and corrugated PE pipe and fittings in NPS 12, silttight couplings, and coupled joints.
  3. NPS 15: Corrugated PE pipe and fittings, silttight couplings, and coupled joints.



### 3.3 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take design considerations into account. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
- C. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- D. Install gravity-flow, nonpressure drainage piping according to the following:
  - 1. Install piping pitched down in direction of flow, at minimum slope of 1 percent, unless otherwise indicated.
  - 2. Install piping with 36-inch minimum cover unless otherwise indicated.
  - 3. Install PE corrugated sewer piping according to CPPA's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings."

### 3.4 PIPE JOINT CONSTRUCTION

- A. Join gravity-flow, non-pressure drainage piping according to the following:
  - 1. Join corrugated PE piping according to CPPA 100 and the following:
    - a. Use silt-tight couplings for Type 2, silt-tight joints.
    - b. Use soil-tight couplings for Type 1, soil-tight joints.
  - 2. Join dissimilar pipe materials with non-pressure-type flexible or rigid couplings.

### 3.5 CONCRETE PLACEMENT

- A. Place cast-in-place concrete according to ACI 318/318R.
  - a. Use concrete that will attain a minimum 28-day compressive strength of 3500 psi, unless otherwise indicated.
  - b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.
- 2. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.

### 3.6 IDENTIFICATION

- A. Materials and their installation are specified in Division 2 Section 02300 "Earthwork." Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.
  - 1. Use detectable warning tape over nonferrous piping and over edges of underground structures.

### 3.7 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
1. Submit separate reports for each system inspection.
  2. Defects requiring correction include the following:
    - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    - c. Crushed, broken, cracked, or otherwise damaged piping.
    - d. Infiltration: Water leakage into piping.
    - e. Exfiltration: Water leakage from or around piping.
  3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
  4. Reinspect and repeat procedure until results are satisfactory.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
1. Do not enclose, cover, or put into service before inspection and approval.
  2. Test completed piping systems according to authorities having jurisdiction.
  3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
  4. Submit separate report for each test.
  5. Gravity-Flow Storm Drainage Piping: Test according to requirements of authorities having jurisdiction, UNI-B-6, and the following:
    - a. Exception: Piping with soiltight joints unless required by authorities having jurisdiction.
    - b. Option: Test concrete piping according to ASTM C 924.
- C. Leaks and loss in test pressure constitute defects that must be repaired.
- D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.

### 3.8 CLEANING

- A. Clean interior of piping of dirt and superfluous materials. Flush with potable water.

END OF SECTION 02630



## SECTION 02741 - HOT-MIX ASPHALT PAVING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Hot-mix asphalt paving.
  - 2. Hot-mix asphalt patching.
  - 3. Hot-mix asphalt paving overlay.
  - 4. Asphalt surface treatments.
  - 5. Pavement-marking paint.
  - 6. Cold milling of existing hot-mix asphalt pavement.
- B. Related Sections include the following:
  - 1. Division 2 Section "Earthwork" for aggregate subbase and base courses and for aggregate pavement shoulders.
  - 2. Division 2 Section "Pavement Joint Sealants" for joint sealants and fillers at paving terminations.
  - 3. Division 2 Section "Unit Pavers" for bituminous setting bed for pavers.

#### 1.3 DEFINITIONS

- A. Hot-Mix Asphalt Paving Terminology: Refer to ASTM D 8 for definitions of terms.
- B. DOT: Department of Transportation.
- C. KTC: Kentucky Transportation Cabinet

#### 1.4 SYSTEM DESCRIPTION

- A. Provide hot-mix asphalt paving according to materials, workmanship, and other applicable requirements of standard specifications of state or local DOT.
  - 1. Standard Specification: DOT = Kentucky Transportation Cabinet (KYTC)
  - 2. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

#### 1.5 SUBMITTALS

- A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.

- B. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.
- C. Samples: For each paving fabric, 12 by 12 inches (300 by 300 mm) minimum.
- D. Qualification Data: For manufacturer.
- E. Material Test Reports: For each paving material.
- F. Material Certificates: For each paving material, signed by manufacturers.

#### 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer.
  - 1. Manufacturer shall be a paving-mix manufacturer registered with and approved by authorities having jurisdiction or the DOT of the state in which Project is located.
- B. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing indicated, as documented according to ASTM E 548.
- C. Regulatory Requirements: Comply with KTC for asphalt paving work.
- D. Asphalt-Paving Publication: Comply with AI MS-22, "Construction of Hot Mix Asphalt Pavements," unless more stringent requirements are indicated.
- E. Preinstallation Conference: Conduct conference at Project site
  - 1. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
  - 2. Review condition of subgrade and preparatory work.
  - 3. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.
  - 4. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.
- B. Store pavement-marking materials in a clean, dry, protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

#### 1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp or if the following conditions are not met:
  - 1. Prime and Tack Coats: Conform to the temperature limitations specified for the asphalt mixture to be placed.

2. Slurry Coat: Comply with weather limitations of ASTM D 3910.
  3. Asphalt Base Course: Minimum surface temperature of 40 deg F (4 deg C) and rising at time of placement.
  4. Asphalt Surface Course: Minimum surface temperature of 45 deg F (15.5 deg C) at time of placement, nor when the ambient temperature within the preceding 24 hours has been 35 deg F or lower.
- B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F (4 deg C) for oil-based materials, 50 deg F (10 deg C) for water-based materials, and not exceeding 95 deg F (35 deg C).

## PART 2 - PRODUCTS

### 2.1 AGGREGATES

- A. General: Use materials and gradations that have performed satisfactorily in previous installations.
- B. Coarse Aggregate: ASTM D 692, sound; angular crushed stone, crushed gravel, or properly cured, crushed blast-furnace slag.
- C. Fine Aggregate: ASTM D 1073, sharp-edged natural sand or sand prepared from stone, gravel, properly cured blast-furnace slag, or combinations thereof.
  1. For hot-mix asphalt, limit natural sand to a maximum of 20 percent by weight of the total aggregate mass.
- D. Mineral Filler: ASTM D 242, rock or slag dust, hydraulic cement, or other inert material.

### 2.2 ASPHALT MATERIALS

- A. Asphalt Binder: AASHTO MP 1, PG 76-22.
- B. Prime Coat: Asphalt emulsion prime complying with KYTC requirements.
- C. Tack Coat: AASHTO M 140, emulsified asphalt or AASHTO M 208, cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

### 2.3 AUXILIARY MATERIALS

- A. Herbicide: Commercial chemical for weed control, registered by the EPA. Provide in granular, liquid, or wettable powder form.
- B. Sand: ASTM D 1073 or AASHTO M 29, Grade Nos. 2 or 3.
- C. Paving Geotextile: AASHTO M 288, nonwoven polypropylene; resistant to chemical attack, rot, and mildew; and specifically designed for paving applications.
- D. Joint Sealant: ASTM D 3405 or AASHTO M 301, hot-applied, single-component, polymer-modified bituminous sealant.

- E. Pavement-Marking Paint: Alkyd-resin type, lead and chromate free, ready mixed, complying with FS TT-P-115, Type II or AASHTO M 248, Type F.
  - 1. Color: White, Yellow, and Blue As indicated on drawings.

## 2.4 MIXES

- A. Hot-Mix Asphalt: Dense, hot-laid, hot-mix asphalt plant mixes approved by authorities having jurisdiction; designed according to procedures in AI MS-2, "Mix Design Methods for Asphalt Concrete and Other Hot-Mix Types"; and complying with the following requirements:
  - 1. Provide mixes with a history of satisfactory performance in geographical area where Project is located.
  - 2. Base Course: See KYTC Standard Specifications.
  - 3. Surface Course: See KYTC Standard Specifications.
  - 4. Binder Course: See KYTC Standard Specifications.
- B. Emulsified-Asphalt Slurry: ASTM D 3910, Type 1, consisting of emulsified asphalt, fine aggregate, and mineral fillers.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to support paving and imposed loads.
- B. Proof-roll subbase using heavy, pneumatic-tired rollers to locate areas that are unstable or that require further compaction.
- C. Proceed with paving only after unsatisfactory conditions have been corrected.

### 3.2 PATCHING

- A. Hot-Mix Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches (300 mm) into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.
- B. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).
  - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
  - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.
- C. Patching: Fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact flush with adjacent surface.

### 3.3 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
  - 1. Sweep loose granular particles from surface of unbound-aggregate base course. Do not dislodge or disturb aggregate embedded in compacted surface of base course.
- B. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
- C. Prime Coat: Apply uniformly over surface of compacted unbound-aggregate base course at a rate of 0.15 to 0.50 gal./sq. yd. (0.7 to 2.3 L/sq. m). Apply enough material to penetrate and seal but not flood surface. Allow prime coat to cure for 72 hours minimum.
  - 1. If prime coat is not entirely absorbed within 24 hours after application, spread sand over surface to blot excess asphalt. Use enough sand to prevent pickup under traffic. Remove loose sand by sweeping before pavement is placed and after volatiles have evaporated.
  - 2. Protect primed substrate from damage until ready to receive paving.
- D. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd. (0.2 to 0.7 L/sq. m).
  - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
  - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

### 3.4 HOT-MIX ASPHALT PLACING

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
  - 1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
  - 2. Spread mix at minimum temperature of 260 deg F (121 deg C).
  - 3. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes, unless otherwise indicated.
  - 4. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet (3 m) wide unless infill edge strips of a lesser width are required.
  - 1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete a section of asphalt base course before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.



### 3.5 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions with same texture and smoothness as other sections of hot-mix asphalt course.
  - 1. Clean contact surfaces and apply tack coat to joints.
  - 2. Offset longitudinal joints, in successive courses, a minimum of 6 inches (150 mm).
  - 3. Offset transverse joints, in successive courses, a minimum of 24 inches (600 mm).
  - 4. Construct transverse joints as described in AI MS-22, "Construction of Hot Mix Asphalt Pavements."
  - 5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
  - 6. Compact asphalt at joints to a density within 2 percent of specified course density.

### 3.6 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or vibratory-plate compactors in areas inaccessible to rollers.
  - 1. Complete compaction before mix temperature cools to 185 deg F (85 deg C).
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
  - 1. Average Density: 96 percent of reference laboratory density according to AASHTO T 245, but not less than 94 percent nor greater than 100 percent.
  - 2. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent nor greater than 96 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.
- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

### 3.7 INSTALLATION TOLERANCES

- A. Thickness: Compact each course to produce the thickness indicated within the following tolerances:
  - 1. Base Course: Plus or minus 1/2 inch (13 mm).
  - 2. Surface Course: Plus 1/4 inch (6 mm), no minus.

- B. Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot (3-m) straightedge applied transversely or longitudinally to paved areas:
  - 1. Base Course: 1/4 inch (6 mm).
  - 2. Surface Course: 1/8 inch (3 mm).
  - 3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch (6 mm).

### 3.8 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.
- B. Allow paving to age for 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils (0.4 mm).
  - 1. Broadcast glass spheres uniformly into wet pavement markings at a rate of 6 lb/gal. (0.72 kg/L).

### 3.9 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage a qualified independent testing and inspecting agency to perform field tests and inspections and to prepare test reports.
  - 1. Testing agency will conduct and interpret tests and state in each report whether tested Work complies with or deviates from specified requirements.
- B. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- C. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.
- D. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- E. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to ASTM D 979 or AASHTO T 168.
  - 1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
  - 2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
    - a. One core sample will be taken for every 1000 sq. yd. (836 sq. m) or less of installed pavement, with no fewer than 3 cores taken.

- b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.
- F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

3.10 DISPOSAL

- A. Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an EPA-approved landfill.
  - 1. Do not allow excavated materials to accumulate on-site.

END OF SECTION 02741

## SECTION 02751 - CEMENT CONCRETE PAVEMENT

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes exterior cement concrete pavement for the following:
  - 1. Curbs and gutters.
  - 2. Walkways.
- B. Related Sections include the following:
  - 1. Division 2 Section "Earthwork" for subgrade preparation, grading, and subbase course.
  - 2. Division 2 Section "Pavement Joint Sealants" for joint sealants of joints in concrete pavement and at isolation joints of concrete pavement with adjacent construction.

#### 1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of manufactured material and product indicated.
- B. Design Mixtures: For each concrete pavement mixture. Include alternate mixture designs when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- C. Qualification Data: For manufacturer and testing agency.
- D. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated, based on comprehensive testing of current materials:
  - 1. Aggregates. Include service record data indicating absence of deleterious expansion of concrete due to alkali-aggregate reactivity.
- E. Material Certificates: Signed by manufacturers certifying that each of the following materials complies with requirements:
  - 1. Cementitious materials.
  - 2. Steel reinforcement and reinforcement accessories.
  - 3. Fiber reinforcement.
  - 4. Admixtures.
  - 5. Curing compounds.
  - 6. Applied finish materials.

- 7. Bonding agent or epoxy adhesive.
  - 8. Joint fillers.
- F. Field quality-control test reports.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.
- C. Concrete Testing Service: Contractor to engage, at the contractor's expense, a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures.
- D. Mockups: Cast mockups of full-size sections of concrete pavement to demonstrate typical joints, surface finish, texture, color, and standard of workmanship.
  - 1. Build mockups in the location and of the size indicated or, if not indicated, as directed by Architect.
  - 2. Notify Architect seven days in advance of dates and times when mockups will be constructed.
  - 3. Obtain Architect's approval of mockups before starting construction.
  - 4. Maintain approved mockups during construction in an undisturbed condition as a standard for judging the completed pavement.
  - 5. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- E. Preinstallation Conference: Conduct conference at Project site
  - 1. Before submitting design mixtures, review concrete pavement mixture design and examine procedures for ensuring quality of concrete materials and concrete pavement construction practices. Require representatives, including the following, of each entity directly concerned with concrete pavement, to attend conference:
    - a. Contractor's superintendent.
    - b. Independent testing agency responsible for concrete design mixtures.
    - c. Ready-mix concrete producer.
    - d. Concrete pavement subcontractor.

#### 1.6 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
  - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
  - 2. Products: Subject to compliance with requirements, provide one of the products specified.

3. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers specified.
4. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

## 2.2 FORMS

- A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.
  1. Use flexible or curved forms for curves with a radius 100 feet (30.5 m) or less.
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

## 2.3 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- B. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- C. Epoxy-Coated Welded Wire Fabric: ASTM A 884/A 884M, Class A, plain steel.
- D. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420); deformed.
- E. Galvanized Reinforcing Bars: ASTM A 767/A 767M, Class II zinc coated, hot-dip galvanized after fabrication and bending; with ASTM A 615/A 615M, Grade 60 (Grade 420) deformed bars.
- F. Epoxy-Coated Reinforcing Bars: ASTM A 775/A 775M or ASTM A 934/A 934M; with ASTM A 615/A 615M, Grade 60 (Grade 420) deformed bars.
- G. Steel Bar Mats: ASTM A 184/A 184M; with ASTM A 615/A 615M, Grade 60 (Grade 420), deformed bars; assembled with clips.
- H. Plain Steel Wire: ASTM A 82.
- I. Deformed-Steel Wire: ASTM A 496.
- J. Epoxy-Coated-Steel Wire: ASTM A 884/A 884M, Class A coated.
- K. Joint Dowel Bars: Plain steel bars, ASTM A 615/A 615M, Grade 60 (Grade 420). Cut bars true to length with ends square and free of burrs.
- L. Epoxy-Coated Joint Dowel Bars: ASTM A 775/A 775M; with ASTM A 615/A 615M, Grade 60 (Grade 420), plain steel bars.
- M. Hook Bolts: ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6), internally and externally threaded. Design hook-bolt joint assembly to hold coupling against pavement form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.
- N. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to

CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete, and as follows:

1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.
  2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.
- O. Epoxy Repair Coating: Liquid two-part epoxy repair coating, compatible with epoxy coating on reinforcement.
- P. Zinc Repair Material: ASTM A 780.

## 2.4 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of the same type, brand, and source throughout the Project:
1. Portland Cement: ASTM C 150, Type I.
    - a. Fly Ash: ASTM C 618, Class C or F.
- B. Normal-Weight Aggregates: ASTM C 33, Class 4M coarse aggregate, uniformly graded. Provide aggregates from a single source.
1. Maximum Coarse-Aggregate Size: 1-1/2 inches (38 mm) nominal.
  2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: ASTM C 94/C 94M.
- D. Air-Entraining Admixture: ASTM C 260.
- E. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.
1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
  2. Retarding Admixture: ASTM C 494/C 494M, Type B.
  3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
  4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
  5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
  6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

## 2.5 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
1. Available Products, or approved equal:
    - a. Axim Concrete Technologies; Cimfilm.
    - b. Burke by Edeco; BurkeFilm.
    - c. ChemMasters; Spray-Film.

- d. Conspec Marketing & Manufacturing Co., Inc.; Aquafilm.
  - e. Dayton Superior Corporation; Sure Film.
  - f. Euclid Chemical Company (The); Eucobar.
  - g. Kaufman Products, Inc.; Vapor Aid.
  - h. Lambert Corporation; Lambco Skin.
  - i. L&M Construction Chemicals, Inc.; E-Con.
  - j. MBT Protection and Repair, ChemRex Inc.; Confilm.
  - k. Meadows, W. R., Inc.; Sealtight Evapre.
  - l. Metalcrete Industries; Waterhold.
  - m. Nox-Crete Products Group, Kinsman Corporation; Monofilm.
  - n. Sika Corporation, Inc.; SikaFilm.
  - o. Symons Corporation; Finishing Aid.
  - p. Vexcon Chemicals, Inc.; Certi-Vex EnvioAssist.
- E. Clear Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.
- 1. Available Products, or approved equal:
    - a. Anti-Hydro International, Inc.; AH Curing Compound #2 DR WB.
    - b. Burke by Edoko; Aqua Resin Cure.
    - c. ChemMasters; Safe-Cure Clear.
    - d. Conspec Marketing & Manufacturing Co., Inc.; W.B. Resin Cure.
    - e. Dayton Superior Corporation; Day Chem Rez Cure (J-11-W).
    - f. Euclid Chemical Company (The); Kurez DR VOX.
    - g. Kaufman Products, Inc.; Thinfilm 420.
    - h. Lambert Corporation; Aqua Kure-Clear.
    - i. L&M Construction Chemicals, Inc.; L&M Cure R.
    - j. Meadows, W. R., Inc.; 1100 Clear.
    - k. Nox-Crete Products Group, Kinsman Corporation; Resin Cure E.
    - l. Symons Corporation; Resi-Chem Clear.
    - m. Tamms Industries Inc.; Horncure WB 30.
    - n. Unitex; Hydro Cure 309.
    - o. Vexcon Chemicals, Inc.; Certi-Vex Enviocure 100.
- F. White Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class B.
- 1. Available Products, or approved equal:
    - a. Anti-Hydro International, Inc.; AH Curing Compound #2 WP WB.
    - b. Burke by Edoko; Resin Emulsion White.
    - c. ChemMasters; Safe-Cure 2000.
    - d. Conspec Marketing & Manufacturing Co., Inc.; W.B. Resin Cure.
    - e. Dayton Superior Corporation; Day-Chem White Pigmented Cure (J-10-W).
    - f. Euclid Chemical Company (The); Kurez VOX White Pigmented.
    - g. Kaufman Products, Inc.; Thinfilm 450.
    - h. Lambert Corporation; Aqua Kure-White.
    - i. L&M Construction Chemicals, Inc.; L&M Cure R-2.
    - j. Meadows, W. R., Inc.; 1200-White.
    - k. Symons Corporation; Resi-Chem White.
    - l. Tamms Industries, Inc.; Horncure 200-W.
    - m. Unitex; Hydro White.
    - n. Vexcon Chemicals, Inc.; Certi-Vex Enviocure White 100.

## 2.6 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.



- B. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, non-glazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery with emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.
- C. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.
- D. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to requirements, and as follows:
  - 1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- E. Pigmented Mineral Dry-Shake Hardener: Factory-packaged dry combination of portland cement, graded quartz aggregate, color pigments, and plasticizing admixture. Use color pigments that are finely ground, non-fading mineral oxides inter-ground with cement.
  - 1. Available Products, or approved equal:
    - a. Conspec Marketing & Manufacturing Co., Inc.; Conshake 600 Colortone.
    - b. Dayton Superior Corporation; Quartz Tuff.
    - c. Euclid Chemical Company (The); Surfex.
    - d. Lambert Corporation; Colorhard.
    - e. L&M Construction Chemicals, Inc.; Quartz Plate FF.
    - f. MBT Protection and Repair, ChemRex Inc.; Mastercron.
    - g. Metalcrete Industries; Floor Quartz.
    - h. Scofield, L. M. Company; Lithochrome Color Hardener.
    - i. Symons Corporation; Hard Top.
  - 2. Color: As selected by Architect from manufacturer's full range.
- F. Rock Salt: Sodium chloride crystals, kiln dried, coarse gradation with 100 percent passing 3/8-inch (9.5-mm) sieve and 85 percent retained on a No. 8 (2.36-mm) sieve.

## 2.7 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.
  - 1. Use a qualified independent testing agency for preparing and reporting proposed concrete mixture designs for the trial batch method.
- B. Proportion mixtures to provide normal-weight concrete with the following properties:
  - 1. Compressive Strength (28 Days): 4500 psi (31 MPa).
  - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
  - 3. Slump Limit: 3 inches, plus or minus 1 inch (25 mm).
- C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:
  - 1. Air Content: 5-1/2 percent plus or minus 1.5 percent for 1-1/2-inch (38-mm) nominal maximum aggregate size.
- D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- E. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.
  - 1. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

- F. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement according to ACI 301 requirements as follows:
  - 1. Fly Ash or Pozzolan: 25 percent.

## 2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.
  - 1. When air temperature is between 85 deg F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proof-roll prepared subbase surface below concrete pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding.
  - 1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph (5 km/h).
  - 2. Proof-roll with a loaded 10-wheel tandem-axle dump truck weighing not less than 15 tons (13.6 tonnes).
  - 3. Subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch (13 mm) require correction according to requirements in Division 2 Section "Earthwork."
- C. Proceed with concrete pavement operations only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.

### 3.2 PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

### 3.3 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

### 3.4 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
- E. Zinc-Coated Reinforcement: Use galvanized steel wire ties to fasten zinc-coated reinforcement. Repair cut and damaged zinc coatings with zinc repair material.
- F. Epoxy-Coated Reinforcement: Use epoxy-coated steel wire ties to fasten epoxy-coated reinforcement. Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M.
- G. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch (50-mm) overlap of adjacent mats.

### 3.5 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.
  - 1. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour unless pavement terminates at isolation joints.
  - 1. Continue steel reinforcement across construction joints, unless otherwise indicated. Do not continue reinforcement through sides of pavement strips, unless otherwise indicated.
  - 2. Provide tie bars at sides of pavement strips where indicated.
  - 3. Butt Joints: Use bonding agent at joint locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
  - 4. Keyed Joints: Provide preformed keyway-section forms or bulkhead forms with keys, unless otherwise indicated. Embed keys at least 1-1/2 inches (38 mm) into concrete.
  - 5. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or asphalt-coat one-half of dowel length to prevent concrete bonding to one side of joint.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
  - 1. Locate expansion joints at intervals of 50 feet (15.25 m), unless otherwise indicated.
  - 2. Extend joint fillers full width and depth of joint.
  - 3. Terminate joint filler not less than 1/2 inch (13 mm) or more than 1 inch (25 mm) below finished surface if joint sealant is indicated.
  - 4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
  - 5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
  - 6. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:

1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch (6-mm) radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
  2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.
- E. Edging: Tool edges of pavement, gutters, curbs, and joints in concrete after initial floating with an edging tool to a 1/4-inch (6-mm) radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

### 3.6 CONCRETE PLACEMENT

- A. Inspection: Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast in. Notify other trades to permit installation of their work.
- B. Remove snow, ice, or frost from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- E. Do not add water to fresh concrete after testing.
- F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.
1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- H. Place concrete in two operations; strike off initial pour for entire width of placement and to the required depth below finish surface. Lay welded wire fabric or fabricated bar mats immediately in final position. Place top layer of concrete, strike off, and screed.
1. Remove and replace concrete that has been placed for more than 15 minutes without being covered by top layer, or use bonding agent if approved by Architect.
- I. Screed pavement surfaces with a straightedge and strike off.
- J. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- K. Curbs and Gutters: When automatic machine placement is used for curb and gutter placement, submit revised mix design and laboratory test results that meet or exceed requirements. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing as specified for formed concrete. If results are not approved, remove and replace with formed concrete.
1. Compact subbase and prepare subgrade of sufficient width to prevent displacement of paver machine during operations.

- L. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
  - 1. When air temperature has fallen to or is expected to fall below 40 deg F (4.4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.
  - 2. Do not use frozen materials or materials containing ice or snow.
  - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mix designs.
  
- M. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:
  - 1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F (32 deg C) at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  - 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
  - 3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

### 3.7 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
  
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
  - 1.
  - 2. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
  - 3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch (1.6 to 3 mm) deep with a stiff-bristled broom, perpendicular to line of traffic.

### 3.8 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
  
- B. Comply with ACI 306.1 for cold-weather protection.
  
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.
  
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
  
- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:
  - 1. Moist Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.

- c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

### 3.9 PAVEMENT TOLERANCES

- A. Comply with tolerances of ACI 117 and as follows:
  1. Elevation: 1/4 inch (6 mm).
  2. Thickness: Plus 3/8 inch (10 mm), minus 1/4 inch (6 mm).
  3. Surface: Gap below 10-foot- (3-m-) long, unlevelled straightedge not to exceed 1/4 inch (6 mm).
  4. Lateral Alignment and Spacing of Tie Bars and Dowels: 1 inch (25 mm).
  5. Vertical Alignment of Tie Bars and Dowels: 1/4 inch (6 mm).
  6. Alignment of Tie-Bar End Relative to Line Perpendicular to Pavement Edge: 1/2 inch (13 mm).
  7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Pavement Edge: Length of dowel 1/4 inch per 12 inches (6 mm per 300 mm).
  8. Joint Spacing: 3 inches (75 mm).
  9. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.
  10. Joint Width: Plus 1/8 inch (3 mm), no minus.

### 3.10 FIELD QUALITY CONTROL

- A. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
  1. Testing Frequency: Obtain at least 1 composite sample for each 100 cu. yd. (76 cu. m) or fraction thereof of each concrete mix placed each day.
    - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mix. Perform additional tests when concrete consistency appears to change.
  3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mix.
  4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each composite sample.
  5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of four standard cylinder specimens for each composite sample.
  6. Compressive-Strength Tests: ASTM C 39/C 39M; test 1 specimen at 7 days and 2 specimens at 28 days.
    - a. A compressive-strength test shall be the average compressive strength from 2 specimens obtained from same composite sample and tested at 28 days.
- B. Strength of each concrete mix will be satisfactory if average of any 3 consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa).

- C. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- D. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.
- E. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
- F. Remove and replace concrete pavement where test results indicate that it does not comply with specified requirements.
- G. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

### 3.11 REPAIRS AND PROTECTION

- A. Remove and replace concrete pavement that is broken, damaged, or defective or that does not comply with requirements in this Section.
- B. Drill test cores, where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.
- C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 02751

## SECTION 02764 - PAVEMENT JOINT SEALANTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Expansion and contraction joints within cement concrete pavement.
  - 2. Joints between cement concrete and asphalt pavement.
- B. Related Sections include the following:
  - 1. Division 2 Section "Hot-Mix Asphalt Paving" for constructing joints between concrete and asphalt pavement.
  - 2. Division 2 Section "Cement Concrete Pavement" for constructing joints in concrete pavement.

#### 1.3 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Verification: For each type and color of joint sealant required. Install joint-sealant samples in 1/2-inch- (13-mm-) wide joints formed between two 6-inch- (150-mm-) long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Product Certificates: For each type of joint sealant and accessory, signed by product manufacturer.
- D. Qualification Data: For Installer.
- E. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
  - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
  - 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for sealants.

#### 1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.



- C. Product Testing: Obtain test results for "Product Test Reports" Paragraph in "Submittals" Article from a qualified testing agency based on testing of current sealant products within a 36-month period preceding the commencement of the Work.
  - 1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 for testing indicated, as documented according to ASTM E 548.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, curing time, and mixing instructions for multicomponent materials.
- B. Store and handle materials to comply with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

#### 1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F (4.4 deg C).
  - 2. When joint substrates are wet or covered with frost.
  - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
  - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

#### 2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

#### 2.3 COLD-APPLIED JOINT SEALANTS

- A. Multicomponent Jet-Fuel-Resistant Sealant for Concrete: Pourable, chemically curing elastomeric formulation complying with the following requirements for formulation and with ASTM C 920 for type, grade, class, and uses indicated:

1. Urethane Formulation: Type M; Grade P; Class 12-1/2; Uses T, M, and, as applicable to joint substrates indicated, O.
  - a. Available (Or Approved Equal) Products:
    - 1) Pecora Corporation; Urexpam NR-300
    - 2) Michelman, Inc.
    - 3) Tremco, Inc.
2. Coal-Tar-Modified Polymer Formulation: Type M; Grade P; Class 25; Uses T and, as applicable to joint substrates indicated, O.
  - a. Available (Or Approved Equal) Products:
    - 1) Meadows, W. R., Inc.; Sealtight Gardox
    - 2) Pecora Corporation
    - 3) Michelman, Inc.
3. Bitumen-Modified Urethane Formulation: Type M; Grade P; Class 25; Uses T, M, and, as applicable to joint substrates indicated, O.
  - a. Available Products, or approved equal:
    - 1) Tremco, Inc. Sealant/Waterproofing Division; Vulkem 202
    - 2) Michelman, Inc.
    - 3) Pecora Corporation
    - 4) Meadows, W.R., Inc.

#### 2.4 JOINT-SEALANT BACKER MATERIALS

- A. General: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.
- B. Round Backer Rods for Cold- and Hot-Applied Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.
- C. Backer Strips for Cold- and Hot-Applied Sealants: ASTM D 5249; Type 2; of thickness and width required to control sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.
- D. Round Backer Rods for Cold-Applied Sealants: ASTM D 5249, Type 3, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.

## 2.5 PRIMERS

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

### 3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install backer materials of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  - 1. Do not leave gaps between ends of backer materials.
  - 2. Do not stretch, twist, puncture, or tear backer materials.
  - 3. Remove absorbent backer materials that have become wet before sealant application and replace them with dry materials.
- D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses provided for each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

- E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
  - 1. Remove excess sealants from surfaces adjacent to joint.
  - 2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions, unless otherwise indicated.
- G. Provide recessed joint configuration for silicone sealants of recess depth and at locations indicated.

#### 3.4 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.

#### 3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations with repaired areas are indistinguishable from the original work.

END OF SECTION 02764



## SECTION 02770 – ROCK SEAT WALLS AND STEPS

### 1.1 DESCRIPTION

- A. This work shall consist of providing materials and installing dry laid rock seat walls and steps that consist of concrete footings and dry laid stone masonry. **Stone Mason is required to be a Certified Stone Mason by the Dry Stone Conservancy, Lexington, KY.**

### 1.2 MATERIALS:

- A. **Provide native limestone quarried in Kentucky, Tennessee or Indiana.**
- B. Include test data indicating compliance with physical properties required by referenced ASTM standards.
- C. Provide five samples for each stone type indicated, exhibiting extremes of the full range of color and other visual characteristics expected in completed rock seat walls. Samples will establish the standard by which stone provided will be judged.
- D. Obtain stone from one quarry with resources to provide materials of consistent quality in appearance and physical properties.
- E. Refer to Section 02751 Cement and Concrete Pavement for rock seat wall concrete footings indicated in plans and details.
- F. Cut and select stone for rock seat walls to comply with sizes, shapes and tolerances recommended by the Dry Stone Conservancy, Lexington, Kentucky.
- G. Carefully select stone at quarry or fabrication plant for compliance with requirements for appearance, material and fabrication. Replace defective units prior to shipment.
- H. Shape stone for split bed, random-range ashlar with random course heights and random lengths (interrupted coursed).

### 1.3 CONSTRUCTION:

- A. Rock seat wall and step installer shall be qualified and employ stone masons and stone fitters experienced in construction of dry laid rock fences and steps.
- B. Provide five samples for each stone type indicated, exhibiting extremes of the full range of color and other visual characteristics expected in completed rock seat walls and steps. Samples will establish the standard by which stone provided will be judged.
- C. Build mock up of rock seat wall 6 feet long to demonstrate aesthetic effects and set quality standards for materials and execution. Mock ups shall include foundation stones, and cap stone. Approved mock ups may become part of completed work if undisturbed at time of substantial completion.
- D. Advise installers of incidental items and other work about specific requirements for placement of reinforcement and similar items to be built into rock seat walls and steps.
- E. Examine subgrades and surfaces indicated to receive rock seat walls and steps with installer present for compliance with requirements for installation and other conditions affecting performance.
- F. Perform necessary field cutting and trimming as stone is set. Use hammer and chisel to split stone that is fabricated with split surfaces. Make edges straight and true, matching similar surfaces that were shop or quarry fabricated.

G. Sort stone before it is placed in wall and steps to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication, or that is otherwise unsuitable for intended use and as indicated below:

1. Foundation Stones: Large, flat rocks minimum of 6 inches and maximum of inches.
2. Wall and Step Face Stones: Medium size rock used to build up outer face of rock fence.
3. Tie Stones: 24 inches to 26 inches long.
4. Cover Stones and Step Tread: 16 inches to 18 inches long.
5. Coping Stones: flat rocks, 2 inches to 4 inches thick and 9 inches to 12 inches long.
6. Packing Stones: Small and irregular rocks used to pack core of wall.

H. Excavate rock seat wall and step foundation to a depth of 4 inches to 6 inches deep by 36 inches wide until reaching firm subsoil. For slopes exceeding 15 degrees step foundation at bottom to place foundation rocks horizontally.

I. Level excavation bottom and compact subgrade. Fill void spaces in excavation bottom with waste rock and soil and compact.

J. Drive pegs 34 inches apart on each side of wall and at 10 feet on center. Provide string line at top of foundation rock and 3 to 5 inches above bottom of excavation

K. Install foundation rocks flush with string line. Place rocks so longest width is in center of wall. Place a minimum of two thirds of foundation rock below wall

L. Select foundation rocks with edges that match adjacent rock edges for tight fit and with flat tops.

M. Hand excavate and compact subgrade as required to securely bed foundation rocks. Place small wedge shaped rocks below foundation stones that are subject to wobbliness or movement. Pack void spaces in foundation rocks with packing rocks to top of foundation rocks.

N. Arrange stones in uncoursed rubble pattern with joint widths indicated. Insert small stones into spaces between larger stones as needed to produce joints as uniform in width as practical.

O. Set up batter frames to lay up lower courses or rock fence. Set up frames level and approximately 20 feet on center with a batter as indicated and 26 inches wide at the base. Drive short sections of steel reinforcement in bottom of excavation to secure batter frames. Slant steel reinforcement at angle to match batter on wall face.

P. Provide a string line approximately 5 to 6 inches above foundation stone on both sides of batter frame to lay first course of facing rocks. Move string line up 5 to 6 inches for each succeeding rock course.

Q. Break vertical joints at each rock course. Longer rocks can extend over three rocks on lower courses. Whenever possible utilize longer rocks on lower courses of wall.

R. Do not 'chink' or 'front pin' dry laid rock seat walls and steps.

S. Pack wall core with packing rocks as each course is laid up. Place long stones all opposite sides of short stones at front and back of wall.

T. Anchor rock seat wall and step stone masonry to concrete with steel reinforcement as indicated.

U. Place tie rocks that extend from front to back of rock seat walls and arc approximately 4 to 6 inches longer than the wall width, with equal projection at the front and back of the wall. Place tie rocks at the midpoint of the wall vertically and at approximately 36 inches on center. Pin tie rocks securely in place with packing rocks. Break face rock courses at tie rocks.

V. Manually walk in the rock seat wall at the top course of the face rocks prior to placement of the cap or coping stones.

W. Provide cover rocks with 2 inches of projection on each side of wall after filling wall voids with packing rock.

X. Stack excess stone where directed by Owner for Owner's use.

1.4 MEASUREMENT AND PAYMENT

A. Rock seat walls shall be measured and paid for per linear foot, installed complete including quarrying, fabricating and providing material. Payment shall include furnishing and complete installation of concrete, excavation, backfill, dry laid masonry, steel reinforcing and accessories as shown on the plans and details. Payment will be made under:

1. Rock Seat Wall, Installed complete, ..... LINEAR FOOT

END OF SECTION





## SECTION 02780 - UNIT PAVERS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Concrete pavers set in sand aggregate setting beds.
  - 2. Edge restraints.
  - 3. Cast-in-place concrete edge restraints.
- B. Related Sections include the following:
  - 1. Division 2 Section "Earthwork" for excavation and compacted subgrade.
  - 2. Division 2 Section "Cement Concrete Pavement" for concrete base under unit pavers and for cast-in-place concrete curbs and gutters serving as edge restraint for unit pavers.

#### 1.3 SUBMITTALS

- A. Product Data: For materials other than water and aggregates.
- B. Product Data: For the following:
  - 1. Unit Pavers.
  - 2. Edge restraints.
- C. Sieve Analyses: For aggregate setting-bed materials, according to ASTM C 136.
- D. Samples for Initial Selection: For the following:
  - 1. Each type of unit paver indicated.
  - 2. Exposed edge restraints involving color selection.

#### 1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of unit paver, joint material, and setting material from one source with resources to provide materials and products of consistent quality in appearance and physical properties.
- B. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.
- B. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

#### 1.6 PROJECT CONDITIONS

- A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.

### PART 2 - PRODUCTS

#### 2.1 CONCRETE PAVERS

- A. ADA Concrete Pavers: Solid paving units, made from normal-weight concrete with a compressive strength not less than 6000psi, water absorption not more than 5 percent according to ASTM C 140, and no breakage and not more than 1 percent mass loss when tested for freeze-thaw resistance according to ASTM C 67.
  1. Detectable Warnings: Pavers shall comply fully with the current provisions for Detectable Warnings of the Americans with Disabilities Act.
  2. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, or approved equal:
    - a. Nitterhouse Masonry Products, Inc.
    - b. Wausau Tile/Terra Paver
    - c. Hanover Architectural Products
  3. Thickness: 2 inches
  4. Face Size and Shape: 12 inches square
  5. Color: As selected by Architect or Owner from manufacturer's full range.

#### 2.2 ACCESSORIES

- A. Edge Restraints: Triangular PVC extrusions 1-3/4 inches (45 mm) high by 3-1/4 inches wide designed to serve as edge restraints for unit pavers; rigid type for straight edges and flexible type for curved edges, with pipe connectors and 3/8-inch (9.5-mm) diameter by 4-inch long steel lag bolts.

1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturer: Subject to compliance with requirements, provide products by one of the following, or approved equal:
  - a. PAVE TECH Inc.
  - b. Curv-Rite
  - c. Permaloc

### 2.3 AGGREGATE SETTING-BED MATERIALS

- A. Graded Aggregate for Subbase: Sound, crushed stone or gravel complying with ASTM D 448 for Size No. 57.
- B. Sand for Leveling Course: Sound, sharp, washed, natural sand or crushed stone complying with gradation requirements in ASTM C 33 for fine aggregate.
- C. Sand for Joints: Fine, sharp, washed, natural sand or crushed stone with 100 percent passing No. 16 (1.18-mm) sieve and no more than 10 percent passing No. 200 (0.075-mm) sieve.
  1. Provide sand of color needed to produce required joint color.
- D. Herbicide: Commercial chemical for weed control, registered with the EPA. Provide in granular, liquid, or wettable powder form.
- E. Water: Potable.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
  1. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Remove substances from concrete substrates that could impair mortar bond, including curing and sealing compounds, form oil, and laitance.
- B. Clean concrete substrates to remove dirt, dust, debris, and loose particles.
- C. Proof-roll prepared subgrade according to requirements in Division 2 Section "Earthwork" to identify soft pockets and areas of excess yielding. Proceed with unit paver installation only after deficient subgrades have been corrected and are ready to receive subbase and base course for unit pavers.

### 3.3 INSTALLATION, GENERAL

- A. Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.
- B. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
  - 1. For concrete pavers, a block splitter may be used.
- C. Tolerances: Do not exceed 1/16-inch (1.6-mm) unit-to-unit offset from flush (lippage) nor 1/8 inch in 24 inches (3 mm in 600 mm) and 1/4 inch in 10 feet (6 mm in 3 m) from level, or indicated slope, for finished surface of paving.
- D. Provide edge restraints as indicated. Install edge restraints before placing unit pavers.
  - 1. Install edge restraints to comply with manufacturer's written instructions. Install stakes at intervals required to hold edge restraints in place during and after unit paver installation.
  - 2. Install job-built concrete edge restraints to comply with requirements in Division 3 Section "Cast-in-Place Concrete."

### 3.4 AGGREGATE SETTING-BED APPLICATIONS

- A. Compact soil subgrade uniformly to at least 98 percent of ASTM D 1557 laboratory density.
- B. Proof-roll prepared subgrade to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- C. Place aggregate subbase and base, compact by tamping with plate vibrator, and screed to depth indicated.
- D. Place leveling course and screed to a thickness of 1 to 1-1/2 inches (25 to 38 mm), taking care that moisture content remains constant and density is loose and constant until pavers are set and compacted.
- E. Treat leveling course with herbicide to inhibit growth of grass and weeds.
- F. Set pavers with a minimum joint width of 1/16 inch (1.5 mm) and a maximum of 1/8 inch (3 mm), being careful not to disturb leveling base. If pavers have spacer bars, place pavers hand tight against spacer bars. Use string lines to keep straight lines. Fill gaps between units that exceed 3/8 inch (10 mm) with pieces cut to fit from full-size unit pavers.
  - 1. When installation is performed with mechanical equipment, use only unit pavers with spacer bars on sides of each unit.
- G. Vibrate pavers into leveling course with a low-amplitude plate vibrator (with neoprene pad if possible) capable of a 3500- to 5000-lbf (16- to 22-kN) compaction force at 80 to 90 Hz. Perform at least three passes across paving with vibrator. Vibrate under the following conditions:
  - 1. After edge pavers are installed and there is a completed surface or before surface is exposed to rain.
  - 2. Before ending each day's work, fully compact installed concrete pavers to within 36 inches (900 mm) of the laying face. Cover pavers that have not been compacted, and leveling course on which pavers have not been placed, with nonstaining plastic sheets to protect them from rain.

- H. Spread dry sand and fill joints immediately after vibrating pavers into leveling course. Vibrate pavers and add sand until joints are completely filled, then remove excess sand. Leave a slight surplus of sand on the surface for joint filling.
- I. Do not allow traffic on installed pavers until sand has been vibrated into joints.
- J. Repeat joint-filling process 30 days later.

### 3.5 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

END OF SECTION 02780



SECTION 02781 - POROUS UNIT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
  - 1. Porous paving consisting of concrete pavers set in aggregate setting beds.
- B. Related Sections include the following:
  - 1. Division 2 Section "Earthwork" for excavation and compacted subgrade.
  - 2. Division 2 Section "Cement Concrete Pavement" for cast-in-place concrete curbs and isolation bands that serve as edge restraints for porous paving.
  - 3. Division 2 Section "Subdrainage" for subdrainage associated with installation of porous unit pavers and aggregate base.

1.3 SUBMITTALS

- A. Product Data: For materials other than aggregates.
- B. Product Data: For the following:
  - 1. Pavers.
  - 2. Geotextiles.
- C. Sieve Analyses: For aggregate materials, according to ASTM C 136.
- D. Samples for Initial Selection:
  - 1. Each type of unit paver indicated.
  - 2. Aggregate fill.
- E. Material Certificates: For unit pavers. Include statements of material properties indicating compliance with requirements, including compliance with standards. Provide for each type and size of unit.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for unit pavers, indicating compliance with requirements.
  - 1. For solid interlocking paving units, include test data for freezing and thawing according to ASTM C 67.



#### 1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of porous paver from one source that has resources to provide materials and products of consistent quality in appearance and physical properties.
- B. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.
- B. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

### PART 2 - PRODUCTS

#### 2.1 CONCRETE UNIT PAVERS

- A. Solid Concrete Pavers for Porous Paving: Solid interlocking paving units of shapes that provide openings between units, complying with ASTM C 936, resistant to freezing and thawing when tested according to ASTM C 67, and made from normal-weight aggregates.
- B. Concrete Pavers: Solid interlocking paving units complying with ASTM C 936 and resistant to freezing and thawing when tested according to ASTM C 67, made from normal-weight aggregates.
  - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
  - 2. Basis-of-Design Product – Paverlock HydraBric: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following, or approved equal:
    - a. Paverlock  
13698 Aiken Road  
Louisville, Kentucky 40245  
www.paverlock.com  
Contact: Michael Baker  
Office: 502-254-0011  
Mobile: 502-777-6453  
  
HydraBric – Permeable Paver
    - b. Belgard Hardscapes – Environmental Collection
    - c. Unilock Corporation – Eco-Prioria
    - d. Pavestone Corporation
  - 3. Thickness: 3.125”.
  - 4. Face Size and Shape: 8.00”x3.88”.

5. Color: As selected by Architect or Owner from manufacturer's full range.

## 2.2 AGGREGATE SETTING-BED MATERIALS

- A. Graded Aggregate for Base Course: Requirements in Division 2 Section "Earthwork" for base material.
- B. Graded Aggregate for Leveling Course: Sound crushed stone or gravel complying with ASTM D 448 for Size No. 9.
- C. Graded Aggregate for Porous Paver Fill: Sound crushed stone or gravel complying with ASTM D 448 for Size No. 9.
- D. Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  1. Survivability: Class 2; AASHTO M 288.
  2. Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.
  3. Permittivity: 0.5 per second, minimum; ASTM D 4491.
  4. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Proof-roll prepared subgrade according to requirements in Division 2 Section "Earthwork" to identify soft pockets and areas of excess yielding. Proceed with porous paver installation only after deficient subgrades have been corrected and are ready to receive base course for porous paving.

### 3.2 INSTALLATION, GENERAL

- A. Do not use unit pavers with chips, cracks, voids, discolorations, and other defects that might be structurally unsound or visible in finished work.
- B. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
- C. Tolerances:
  1. Variation in Plane between Adjacent Units (Lipping): Do not exceed 1/16-inch unit-to-unit offset from flush.
  2. Variation from Level or Indicated Slope: Do not exceed 1/8 inch in 24 inches and 1/4 inch in 10 feet or a maximum of 1/2 inch.
- D. Verify that curbs provided under Division 2 Section "Cement Concrete Paving" are in-place before placing unit pavers.

### 3.3 SETTING-BED INSTALLATION

- A. Compacted soil subgrade uniformly to at least 95 percent of ASTM D 698 laboratory density by Earthwork Contractor and is Not In Contract.
- B. Proof-roll prepared subgrade to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- C. Place aggregate base, compact by tamping with plate vibrator, and screed to depth indicated.
- D. Place drainage geotextile over compacted base course, overlapping ends and edges at least 12 inches.
- E. Place leveling course and screed to a thickness of 1 to 1-1/2 inches, taking care that moisture content remains constant and density is loose and constant until pavers are set and compacted.

### 3.4 PAVER INSTALLATION

- A. Set unit pavers on leveling course, being careful not to disturb leveling base. If pavers have lugs or spacer bars to control spacing, place pavers hand tight against lugs or spacer bars. If pavers do not have lugs or spacer bars, place pavers with a 1/16-inch- minimum and 1/8-inch- maximum joint width. Use string lines to keep straight lines. Fill gaps between units that exceed 3/8 inch with pieces cut to fit from full-size pavers.
  - 1. When installation is performed with mechanical equipment, use only unit pavers with lugs or spacer bars on sides of each unit.
- B. Compact pavers into leveling course with a low-amplitude plate vibrator capable of a 3500- to 5000-lbf compaction force at 80 to 90 Hz. Use vibrator with neoprene mat on face of plate or other means as needed to prevent cracking and chipping of pavers. Perform at least three passes across paving with vibrator.
  - 1. Compact pavers when there is sufficient surface to accommodate operation of vibrator, leaving at least 36 inches of uncompacted pavers adjacent to temporary edges.
  - 2. Before ending each day's work, compact installed concrete pavers except for 36-inch width of uncompacted pavers adjacent to temporary edges (laying faces).
  - 3. As work progresses to perimeter of installation, compact installed pavers that are adjacent to permanent edges unless they are within 36 inches of laying face.
  - 4. Before ending each day's work and when rain interrupts work, cover pavers that have not been compacted and leveling course on which pavers have not been placed with nonstaining plastic sheets to protect them from rain.
- C. Place graded aggregate fill immediately after vibrating pavers into leveling course. Spread and screed aggregate fill level with tops of pavers.
  - 1. Before ending each day's work, place aggregate fill in installed porous paving except for 42-inch width of unfilled paving adjacent to temporary edges (laying faces).
  - 2. As work progresses to perimeter of installation, place aggregate fill in installed paving that is adjacent to permanent edges unless it is within 42 inches of laying face.
  - 3. Before ending each day's work and when rain interrupts work, cover paving that has not been filled with nonstaining plastic sheets to protect it from rain.

- D. Remove and replace pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

END OF SECTION 02781



**SECTION 02782 – DETECTABLE WARNING SURFACE TILE**

**1.0 SCOPE OF WORK**

This Section specifies the type and installation of the Detectable Warning Surface Tiles where indicated and is concurrent with the installation of concrete sidewalk ramps. Tiles shall be Access Tile (Tactile System) Cast in Place Replaceable Tile manufactured by Access Products, Inc. (241 Main Street Suite 100 – Buffalo, NY 14203, Tel: 888-679-4022, Fax: 877-679-4022, email for Tech Support: [tech@accessproducts.com](mailto:tech@accessproducts.com)).

**2.0 RECEIVING, STORAGE AND HANDLING**

Tiles shall be picked up from the Division of Streets, Road & Forestry during business hours (8:00 AM – 4:30 PM). The tiles shall be released on an as needed basis for the immediate work to be completed and not stock piled by the Contractor. If any tiles are lost or damaged by the contractor such that LFUCG must furnish additional tiles, the cost of the additional tiles will be deducted from the Contractor's payments.

**3.0 SITE CONDITIONS**

Environmental Conditions and Protection: Maintain minimum temperature of 40°F in spaces to receive tactile tiles for at least 48 hours prior to installations, during installation, and for not less than 48 hours after installation. Tiles shall be within +/- 10% of ambient temperature when placed. Subsequently, maintain minimum temperature of 40°F in areas where work is completed. The use of water for work, cleaning or dust control, etc. shall be contained and controlled and shall not be allowed to come into contact with nearby structures, fixtures, motor vehicles, pedestrians, etc. Provide barricades or screens to protect passengers or public. Disposal of any potentially hazardous liquids or other materials shall be made in accordance with federal state and local laws and ordinances. Cleaning materials shall have code acceptable low VOC solvent content and low flammability if used on the site.

**4.0 INSTALLATION**

Installation shall be performed as to Access Tile Replaceable Cast in Place Detectable/Tactile Warning Surfaces Section 32 17 26 Part 3.01 Installation. A copy is attached to the end of this specification.

**5.0 BASIS OF PAYMENT**

Accepted quantities under this section shall be paid for at the unit bid price per square foot for the appropriate size of Detectable Warning Surface Tile installed. Payment shall be considered full compensation for all materials and labor required to complete the work described in this section.

**THE FOLLOWING PAGES INCLUDE THE MANUFACTURER'S SPECIFICATION FOR DETECTABLE WARNING SURFACE PAVERS PROVIDED BY LFUCG AND TO BE INSTALLED BY CONTRACTOR.**

**Access Tile: Replaceable Cast in Place Detectable/Tactile Warning Surfaces**

**Section 32 17 26**

**With some subsection omitted.**

**REPLACEABLE CAST IN PLACE DETECTABLE/TACTILE WARNING SURFACES**

**SECTION 32 17 26**

**REPLACEABLE CAST IN PLACE DETECTABLE/TACTILE WARNING SURFACES**

**PART 1 GENERAL**

**1.01 RELATED DOCUMENTS**

A. Drawings and general provisions of Contract, including General and Special Conditions and Division 1 Specifications Section, apply to this Section.

**1.02 DESCRIPTION**

A. This Section specifies furnishing and installing Replaceable Cast in Place Detectable/Tactile Warning Tiles where indicated.

**1.03 SUBMITTALS**

A. Product Data: Submit manufacturer's literature describing products, installation procedures and routine maintenance.

B. Samples for Verification Purposes: Submit two (2) tile samples minimum 12"x12" of the kind proposed for use.

C. Shop drawings are required for products specified showing fabrication details, composite structural system, tile surface profile, fastener and anchor locations, plans of tile placement including joints, and material to be used as well as outlining installation materials and procedure.

D. Material Test Reports: Submit complete test reports from qualified accredited independent testing laboratories to qualify that materials proposed for use are in compliance with requirements and meet or exceed the properties indicated on the specifications. All tests shall be conducted on a Replaceable Cast In Place Detectable Tactile Warning Tile system as certified by a qualified independent testing laboratory and be current within a 60 month period.

E. Maintenance Instructions: Submit copies of manufacturer's specified installation and maintenance practices for each type of Detectable Warning Tile and accessory as required.

**1.04 QUALITY ASSURANCE**

A. Provide Replaceable Cast in Place Detectable/Tactile Warning Tiles and accessories as produced by a single manufacturer with a minimum of three (3) years experience in the manufacturing of Cast in Place Detectable/Tactile Warning Tiles.

B. Installer's Qualifications: Engage an experienced installer certified in writing by Replaceable Cast in Place Detectable/Tactile Warning Tile manufacturer as qualified for installation, who has successfully completed installations similar in material, design, and extent to that indicated for project.

C. Americans with Disabilities Act (ADA): Provide Replaceable Detectable/Tactile Warning Tiles which comply with the detectable warnings on walking surfaces section of the Americans with Disabilities Act (Title III Regulations, 28 CFR Part 36 ADA STANDARDS FOR ACCESSIBLE DESIGN, Appendix A, Section 4.29.2 DETECTABLE WARNINGS ON WALKING SURFACES).

D. California Code of Regulations (CCR): Provide only approved DSAAC detectable warning products as provided in the California Code of Regulations (CCR) Title 24, Section 1112A.9 and 1127B.5 for "Curb Ramps" and Section 1133B.8.5 for "Detectable Warnings at Hazardous Vehicular Areas".

E. Engineered Polymer Composite Replaceable Cast in Place Detectable/Tactile Warning Tiles shall be manufactured from an ultra violet stabilized polymer composition with fiberglass reinforcement, the tile shall incorporate an in-line pattern of truncated domes measuring nominal 0.2" height, 0.91" base diameter, and 0.45" top diameter, and spaced center-to-center 2.35" as measured side by side. For wheelchair safety the field area shall consist of a high density, diamond grip™ pyramid micro texture of raised points 0.05" high; "Access Tile" as manufactured by Access Products, Inc., Tel: 888-679-4022, or approved equal.

1. Dimensions: Replaceable Cast in Place Detectable/Tactile Warning Tiles shall be held within the following dimensions and tolerances:  
*Specifiers Note: Edit section below by selecting desired length and width. Delete non relevant dimensions.*  
Length and Width: [12x12] [24x36] [24x48] [24x60] [36x48] [36x60] [10' Radius Curve] {+/- .5"} Fasteners/Anchors: 12 min.
2. Compressive Strength of Tile when tested by ASTM D 695-08 not to be less than 25,000 PSI.
3. Tensile Strength of Tile when tested by ASTM D 638-08 not to be less than 12,500 PSI.
4. Flexural Strength of Tile when tested by ASTM D 790-07 Procedure A not to be less than 30,000 PSI.

#### 1.05 DELIVERY, STORAGE AND HANDLING

A. Replaceable Cast in Place Detectable/Tactile Warning Tiles shall be suitably packaged or crated to prevent damage in shipment or handling. Finished surfaces shall be protected by sturdy plastic wrappings to protect tile from concrete residue during installation and tile type shall be identified by part number.

B. Replaceable Cast in Place Detectable/Tactile Warning Tiles shall be delivered to location at building site for storage prior to installation.

#### 1.06 SITE CONDITIONS

A. Environmental Conditions and Protection: Maintain minimum temperature of 40°F in spaces to receive Replaceable Cast in Place Detectable/Tactile Warning Tiles for at least 24 hours prior to installation, during installation, and for not less than 24 hours after installation.

B. The use of water for work, cleaning or dust control, etc. shall be contained and controlled and shall not be allowed to come into contact with the general public. Provide barricades or screens to protect the general public.

#### 1.07 WARRANTY

A. Replaceable Cast in Place Detectable/Tactile Warning Tiles shall be warranted in writing for a period of five (5) years from date of final completion. The guarantee includes defective work, breakage, deformation, fading and loosening of tiles.

### PART 2 PRODUCTS

#### 2.01 MANUFACTURERS

A. The Engineered Polymer Composite Replaceable Cast In Place Detectable/Tactile Warning Tile specified is based on Access Tile manufactured by Access Products, Inc. (888-679-4022) existing engineered and field tested products, which have been in successful service for a period of three (3) years are subject to compliance with



requirements, may be incorporated in the work and shall meet or exceed the specified test criteria and characteristics.

B. Color: Yellow conforming to Federal Color No. 33538. Color shall be homogeneous throughout the tile. Tiles are also available in Dark Grey (Federal Color No. 36118), Onyx Black (Federal Color No. 17038), Brick Red (Federal Color No. 22144), and Colonial Red (Federal Color No. 20109).

### **PART 3 EXECUTION**

#### **3.01 INSTALLATION**

A. During the Replaceable Cast in Place Detectable/Tactile Warning Tile installation procedures, ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.

B. Prior to placement of the Replaceable Cast in Place Detectable/Tactile Warning Tile system, review manufacturer's instructions and contract drawings with the Contractor prior to the construction and refer any and all discrepancies to Project Engineer.

C. The specifications and related materials shall be in strict accordance with the contract documents and the guidelines set by their respective manufacturers. Not recommended for asphalt applications.

D. The physical characteristics of the concrete shall be consistent with the contract specifications while maintaining a slump range of 4 - 7 to permit solid placement of the Replaceable Cast in Place Detectable/Tactile Warning Tile system. An overly wet mix will cause the tile to float. Under these conditions, suitable weights such as sandbags shall be placed on tile.

E. The concrete pouring and finishing operations require typical mason's tools, however, a 4' long level with electronic slope readout, and 10 lb. sandbags are specific to the installation of the Replaceable Cast in Place Detectable/Tactile Warning Tile system.

F. The factory-installed plastic sheeting must remain in place during the entire installation process to prevent the splashing of concrete onto the finished surface of the tile.

G. When preparing to set the tile, it is important that no concrete be removed in the area to accept the tile. It is imperative that the installation technique eliminates any air voids under the tile. Gaps in the tile perimeter allow air to escape during the installation process.

H. The concrete shall be poured and finished true and smooth to the required dimensions and slope prior to the tile placement. Immediately after finishing concrete, the electronic level should be used to check that the required slope is achieved. The tile shall be placed true and square to the curb edge in accordance with the contract drawings. The Replaceable Cast in Place Detectable/Tactile Warning Tiles shall be tamped (or vibrated) into the fresh concrete to ensure that the field level of the tile is flush to the adjacent concrete surface. The embedment process should not be accomplished by stepping on the tile as this may cause uneven setting which can result in air voids under the tile surface. The contract drawings indicate that the tile field level (base of truncated dome) is flush to adjacent surfaces to permit proper water drainage and eliminate tripping hazards between adjacent finishes.

I. In cold weather climates it is recommended that the Replaceable Cast in Place Detectable/Tactile Warning Tiles be set deeper such that the top of domes are level to the adjacent concrete on the top and sides of ramp. This installation will reduce the possibility of damage due to snow clearing operations. Care should be taken to finish the concrete on the side of the tile with the lower elevation, adding channels to allow water to drain from the field surface of the tile.

J. Immediately after placement, the tile elevation is to be checked to adjacent concrete. The elevation and slope should be set consistent with contract drawings to permit water drainage to curb as the design dictates. Ensure that the field surface of the tile is flush with the surrounding concrete and back of curb so that no ponding is possible on the tile at the back side of curb.

K. While concrete is workable, a 1/8" radius edging tool shall be used to create a finished edge of concrete, then a steel trowel shall be used to finish the concrete around the tile's perimeter, flush to the field level of the tile.

L. During and after the tile installation and the concrete curing stage, it is imperative that there is no walking, leaning or external force placed on the tile that may rock the tile causing a void between the underside of tile and concrete.

M. Following tile placement, review installation tolerances to contract drawings and adjust tile before the concrete sets. Suitable weights of 10 to 25 lb each may be required to be placed on each tile as necessary to ensure solid contact of the underside of tile to concrete.

N. Following the concrete curing stage, protective plastic wrap is to be removed from the tile surface by cutting the plastic with a sharp knife, tight to the concrete/tile interface. If concrete bled under the plastic, a soft brass wire brush will clean the residue without damage to the tile surface.

O. Tiles can be cut to custom sizes, or to make a radius, using a continuous rim diamond blade in a circular saw or mini-grinder. Use of a straightedge to guide the cut is advisable where appropriate.

### **3.02 REPLACING TILES, PROTECTING AND MAINTENANCE**

A. Protect tiles against damage during construction period to comply with Tactile Tile manufacturer's specification.

B. Protect tiles against damage from rolling loads following installation by covering with plywood or hardwood.

C. Replace tiles by method specified by Tactile Tile manufacturer.

D. Comply with manufacturer's maintenance manual for cleaning and maintaining tile surface. It is recommended to perform annual inspections for safety and tile integrity.

**END OF SECTION**

Isaac Murphy Memorial Art Garden Trail Head  
Lexington, Kentucky

November 2013

## SECTION 02870 - SITE FURNISHINGS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Bicycle racks
  - 2. Trash receptacles
  - 3. Drinking water fountains
- B. Related Sections include the following:
  - 1. Division 03 Section "Cast-in-Place Concrete" for installation of anchor bolts cast in concrete footings.
  - 2. Division 2 Section "Earthwork" for excavation and subgrade for installation of concrete footings.
- C. Products furnished, but not installed under this Section, include anchor bolts to be cast in concrete footings and installed in paving.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples for Initial Selection: For units with factory-applied color finishes.
- C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
  - 1. Size: Not less than 6-inch- long linear components and 4-inch- square sheet components.
- D. Product Schedule: For site furnishings. Use same designations indicated on Drawings.
- E. Material Certificates: For site furnishings, signed by manufacturers.
- F. Maintenance Data: For site furnishings to include in maintenance manuals.

#### 1.4 QUALITY ASSURANCE

- A. Source Limitations: Except as indicated, obtain site furnishing(s) through one source from a single manufacturer.

1.5 Delivery, Storage and Handling

- A. Handle products in accordance with manufacturer's instructions.
- B. Store products in manufacturer's original packaging until ready for installation.
- C. Protect products from impacts and abrasion during storage.

1.6 Warranty

- A. Provide manufacturer's standard warranty.
  - 1. Warranty terms: one year from date of invoice against defects in materials and workmanship.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated; free of surface blemishes and complying with the following:
  - 1. Rolled or Cold-Finished Bars, Rods, and Wire: ASTM B 211.
  - 2. Extruded Bars, Rods, Wire, Profiles, and Tubes: ASTM B 221.
  - 3. Structural Pipe and Tube: ASTM B 429.
  - 4. Sheet and Plate: ASTM B 209.
  - 5. Castings: ASTM B 26/B 26M.
- B. Steel and Iron: Free of surface blemishes and complying with the following:
  - 1. Plates, Shapes, and Bars: ASTM A 36/A 36M.
  - 2. Steel Pipe: Standard-weight steel pipe complying with ASTM A 53, or electric-resistance-welded pipe complying with ASTM A 135.
  - 3. Tubing: Cold-formed steel tubing complying with ASTM A 500.
  - 4. Mechanical Tubing: Cold-rolled, electric-resistance-welded carbon or alloy steel tubing complying with ASTM A 513, or steel tubing fabricated from steel complying with ASTM A 1011/A 1011M and complying with dimensional tolerances in ASTM A 500; zinc coated internally and externally.
  - 5. Sheet: Commercial steel sheet complying with ASTM A 1011/A 1011M.
  - 6. Perforated Metal: From steel sheet not less than 0.0897-inch nominal thickness; manufacturer's standard perforation pattern.
  - 7. Expanded Metal: Carbon-steel sheets, deburred after expansion, and complying with ASTM F 1267.
  - 8. Malleable-Iron Castings: ASTM A 47/A 47M, grade as recommended by fabricator for type of use intended.
  - 9. Gray-Iron Castings: ASTM A 48/A 48M, Class 200.
- C. Stainless Steel: Free of surface blemishes and complying with the following:
  - 1. Sheet, Strip, Plate, and Flat Bars: ASTM A 666.
  - 2. Pipe: Schedule 40 steel pipe complying with ASTM A 312/A 312M.
  - 3. Tubing: ASTM A 554.

- D. Anchors, Fasteners, Fittings, and Hardware: Manufacturer's standard, corrosion-resistant-coated or noncorrodible materials; commercial quality, tamperproof, vandal and theft resistant, concealed, recessed, and capped or plugged.
  - 1. Antitheft Hold-Down Brackets: For securing site furnishings to substrate; two per unit.
- E. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107; recommended in writing by manufacturer, for exterior applications.
- F. Galvanizing: Where indicated for steel and iron components, provide the following protective zinc coating applied to components after fabrication:
  - 1. Zinc-Coated Tubing: External, zinc with organic overcoat, consisting of a minimum of 0.9 oz./sq. ft. of zinc after welding, a chromate conversion coating, and a clear, polymer film. Internal, same as external or consisting of 81 percent zinc pigmented coating, not less than 0.3 mil thick.
  - 2. Hot-Dip Galvanizing: According to ASTM A 123/A 123M, ASTM A 153/A 153M, or ASTM A 924/A 924M.

## 2.2 BICYCLE RACKS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Forms+Surfaces, "Bike Garden" bike rack to be cast-in-place, or a comparable product acceptable to the Owner/Landscape Architect by one of the following manufacturers, or approved equal:
  - 1. Landscapeforms
  - 2. Madrax
  - 3. DuMor
- B. Bicycle Rack Construction:
  - 1. Frame: Stainless Steel with Aluminum or Slate Texture to be chosen by Landscape Architect
  - 2. Color: To be selected by Owner/Landscape Architect from full range
  - 3. Style: Double-side parking
  - 4. Security: Designed to lock wheel and/or frame
  - 5. Installation Method: Cast-In-Place

## 2.3 TRASH RECEPTACLES

- A. Basis-of-design product (**Base Bid**): See **stone receptacle details in Construction Drawings**
  - 1. Trash Receptacle from the following or approved equal (**Additive Alternate #1**):
    - a. Wabash Valley, LR305P or LR305R
    - b. Landscape Forms, Chase Park

#### 2.4 Drinking Water Fountain

- A. Basis-of-Design Product: Subject to compliance with requirements, provide Murdoch Super Secur. "Architectural Series" Model M-43-AVAF or approved equal.
  
- B. Specifications: One fountain bowl mounted on arm to meet ADA Accessibility requirements
  - 1. Arm Length: Extend minimum 19" from pedestal; aluminum magnesium casting; oil-based green enamel finish
  - 2. Bowl Height: Octagonal, powder-coated, solid brass casting; Minimum clearance 27" from grade level to bowl support
  - 3. Control: Push-button at end of arm
  - 4. Pedestal: Heavy-duty iron casting with four mounting holes; oil-based green enamel finish
  - 5. Drain: Chrome-plated solid brass casting
  - 6. Bubbler: Chrome-plated solid brass casting, angle stream outlet
  - 7. Mouth guard: Powder-coated solid brass to meet sanitary requirements
  - 8. Lead-free castings shall be used in all waterways
  - 9. Valve: Push-button operation with replaceable cartridge
  - 10. Castings: Solid brass

#### 2.5 FABRICATION

- A. Metal Components: Form to required shapes and sizes with true, consistent curves, lines, and angles. Separate metals from dissimilar materials to prevent electrolytic action.
  
- B. Welded Connections: Weld connections continuously. Weld solid members with full-length, full-penetration welds and hollow members with full-circumference welds. At exposed connections, finish surfaces smooth and blended so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.
  
- C. Pipes and Tubes: Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
  
- D. Exposed Surfaces: Polished, sanded, or otherwise finished; all surfaces smooth, free of burrs, barbs, splinters, and sharpness; all edges and ends rolled, rounded, or capped.
  
- E. Factory Assembly: Assemble components in the factory to greatest extent possible to minimize field assembly. Clearly mark units for assembly in the field.

#### 2.6 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
  
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.7 ALUMINUM FINISHES

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

2.8 STEEL AND GALVANIZED STEEL FINISHES

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.
  - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.
- B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.
- C. Install site furnishings level, plumb, true, and securely anchored at locations indicated on Drawings.

3.3 CLEANING

- A. After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION 02870





## SECTION 02920 - LAWNS AND GRASSES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Seeding.
  - 2. Sodding.
- B. Related Sections include the following:
  - 1. Division 2 Section "Site Clearing" for topsoil stripping and stockpiling.
  - 2. Division 2 Section "Earthwork" for excavation, filling and backfilling, and rough grading.

#### 1.3 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- C. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.
- D. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill immediately beneath planting soil.
- E. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

#### 1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
  - 1. Certification of each seed mixture for turfgrass sod, identifying source, including name and telephone number of supplier.
- C. Product Certificates: For soil amendments and fertilizers, signed by product manufacturer.

- D. Qualification Data: For landscape Installer.
- E. Material Test Reports: For existing surface soil and imported topsoil.
- F. Planting Schedule: Indicating anticipated planting dates for each type of planting.
- G. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of lawns during a calendar year. Submit before expiration of required maintenance periods.

#### 1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful lawn establishment.
  - 1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
  - 2. Experience: Five years' experience in turf installation in addition to requirements in Division 01 Section "Quality Requirements."
  - 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when planting is in progress.
  - 4. Maintenance Proximity: Not more than two hours' normal travel time from Installer's place of business to Project site.
  - 5. Pesticide Applicator: State licensed, commercial.
- B. Soil-Testing Laboratory Qualifications: An independent laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- C. Topsoil Analysis: Furnish soil analysis by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; sodium absorption ratio; deleterious material; pH; and mineral and plant-nutrient content of topsoil.
  - 1. Report suitability of topsoil for lawn growth. State recommended quantities of nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce a satisfactory topsoil.
- D. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

#### 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Seed: Deliver seed in original sealed, labeled, and undamaged containers.
- B. Sod: Harvest, deliver, store, and handle sod according to requirements in TPI's "Specifications for Turfgrass Sod Materials" and "Specifications for Turfgrass Sod Transplanting and Installation" in its "Guideline Specifications to Turfgrass Sodding."
- C. Bulk Materials:
  - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.

2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.

#### 1.7 SCHEDULING

- A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
  1. Spring Planting: March 1<sup>st</sup> – May 15th.
  2. Fall Planting: September 1<sup>st</sup> – October 15th.
- B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

#### 1.8 LAWN MAINTENANCE

- A. Begin maintenance immediately after each area is planted and continue until acceptable lawn is established, but for not less than the following periods:
  1. Seeded Lawns: 60 days from date of Substantial Completion.
    - a. When initial maintenance period has not elapsed before end of planting season, or if lawn is not fully established, continue maintenance during next planting season.
  2. Sodded Lawns: 30 days from date of Substantial Completion.
- B. Maintain and establish lawn by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth lawn.
  1. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch. Anchor as required to prevent displacement.
- C. Watering: Provide and maintain temporary piping, hoses, and lawn-watering equipment to convey water from sources and to keep lawn uniformly moist to a depth of 4 inches (100 mm).
  1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
  2. Water lawn at a minimum rate of 1 inch (25 mm) per week.
- D. Mow lawn as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 40 percent of grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
  1. Mow grass 2 to 3 inches (50 to 75 mm) high.
- E. Lawn Postfertilization: Apply fertilizer after initial mowing and when grass is dry.

1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) to lawn area.

## PART 2 - PRODUCTS

### 2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:
  1. Standard Fescue Lawn Mixture.
    - a. Tri Blend Turf type Fescue Mixtures "Southern Supreme" or "Dryspell" or approved equal

### 2.2 TURFGRASS SOD

- A. Turfgrass Species: Sod of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:
  1. Standard Fescue Lawn Mixture.
    - a. Tri Blend Turf type Fescue Mixtures "Southern Supreme" or "Dryspell" or approved equal

### 2.3 TOPSOIL

- A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch (25 mm) or larger in any dimension and other extraneous materials harmful to plant growth.
  1. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
    - a. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches (100 mm) deep; do not obtain from agricultural land, bogs or marshes.
  2. Topsoil Source: Import topsoil or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches (100 mm) deep; do not obtain from bogs or marshes.
  3. Topsoil Source: Amend existing in-place surface soil to produce topsoil. Verify suitability of surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
    - a. Surface soil may be supplemented with imported or manufactured topsoil from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches (100 mm) deep; do not obtain from bogs or marshes.

## 2.4 INORGANIC SOIL AMENDMENTS

- A. Use the following inorganic soil amendments in amounts recommended in soil reports from a qualified soil-testing agency.
- B. Lime: ASTM C 602, agricultural limestone containing a minimum 80 percent calcium carbonate equivalent and as follows:
  - 1. Class: Class O, with a minimum 95 percent passing through No. 8 (2.36-mm) sieve and a minimum 55 percent passing through No. 60 (0.25-mm) sieve.
  - 2. Provide lime in form of dolomitic limestone.
- C. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, with a minimum 99 percent passing through No. 6 (3.35-mm) sieve and a maximum 10 percent passing through No. 40 (0.425-mm) sieve.
- D. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- E. Aluminum Sulfate: Commercial grade, unadulterated.
- F. Perlite: Horticultural perlite, soil amendment grade.
- G. Agricultural Gypsum: Finely ground, containing a minimum of 90 percent calcium sulfate.
- H. Sand: Clean, washed, natural or manufactured, free of toxic materials.
- I. Diatomaceous Earth: Calcined, diatomaceous earth, 90 percent silica, with approximately 140 percent water absorption capacity by weight.
- J. Zeolites: Mineral clinoptilolite with at least 60 percent water absorption by weight.

## 2.5 ORGANIC SOIL AMENDMENTS

- A. Use the following organic soil amendments in amounts recommended in soil reports from a qualified soil-testing agency.
- B. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch (25-mm) sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
  - 1. Organic Matter Content: 50 to 60 percent of dry weight.
  - 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- C. Peat: Sphagnum peat moss, partially decomposed, finely divided or granular texture, with a pH range of 3.4 to 4.8.
- D. Peat: Finely divided or granular texture, with a pH range of 6 to 7.5, containing partially decomposed moss peat, native peat, or reed-sedge peat and having a water-absorbing capacity of 1100 to 2000 percent.
- E. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture, free of chips, stones, sticks, soil, or toxic materials.

1. In lieu of decomposed wood derivatives, mix partially decomposed wood derivatives with at least 0.15 lb (2.4 kg) of ammonium nitrate or 0.25 lb (4 kg) of ammonium sulfate per cubic foot (cubic meter) of loose sawdust or ground bark.

- F. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

## 2.6 PLANTING ACCESSORIES

- A. Selective Herbicides: EPA registered and approved, of type recommended by manufacturer for application.

## 2.7 FERTILIZER

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition.

1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

- B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing agency.

## 2.8 MULCHES

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.

- B. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch (25-mm) sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:

1. Organic Matter Content: 50 to 60 percent of dry weight.
2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.

## 2.9 EROSION-CONTROL MATERIALS

- A. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

- B. Erosion-Control Fiber Mesh: Biodegradable twisted jute or spun-coir mesh, a minimum of 0.92 lb/sq. yd. (0.5 kg/sq. m), with 50 to 65 percent open area. Include manufacturer's recommended steel wire staples, 6 inches (150 mm) long.

2.10 PLANTING SOIL MIX

- A. Planting Soil Mix: Mix topsoil with the following soil amendments and fertilizers in the following quantities:
1. Ratio of Loose Compost to Topsoil by Volume: 1:3.
  2. Ratio of Loose Peat to Topsoil by Volume: Contingent of test results.
  3. Ratio of Loose Wood Derivatives to Topsoil by Volume: Contingent of test results.
  4. Weight of Lime per 1000 Sq. Ft. (92.9 Sq. m): Contingent of test results.
  5. Weight of Sulfur, Iron Sulfate, or Aluminum Sulfate per 1000 Sq. Ft. (92.9 Sq. m): Contingent of test results.
  6. Weight of Agricultural Gypsum per 1000 Sq. Ft. (92.9 Sq. m): Contingent of test results.
  7. Volume of Sand Plus 10 Percent Diatomaceous Earth or Zeolites per 1000 Sq. Ft. (92.9 Sq. m): Contingent of test results.
  8. Weight of Bonemeal per 1000 Sq. Ft. (92.9 Sq. m): Contingent on test results.
  9. Weight of Superphosphate per 1000 Sq. Ft. (92.9 Sq. m): Contingent of test results.
  10. Weight of Commercial Fertilizer per 1000 Sq. Ft. (92.9 Sq. m): Contingent of test results.
  11. Weight of Slow-Release Fertilizer per 1000 Sq. Ft. (92.9 Sq. m): Contingent of test results.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive lawns and grass for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
1. Protect adjacent and adjoining areas from hydroseeding overspray.
- B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 LAWN PREPARATION

- A. Limit lawn subgrade preparation to areas to be planted.
- B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 4 inches (100 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
1. Apply superphosphate fertilizer directly to subgrade before loosening.
  2. Thoroughly blend planting soil mix off-site before spreading or spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil mix.
    - a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
    - b. Mix lime with dry soil before mixing fertilizer.



3. Spread planting soil mix to a depth of 4 inches (100 mm) but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
  - a. Spread approximately one-half the thickness of planting soil mix over loosened subgrade. Mix thoroughly into top 4 inches (100 mm) of subgrade. Spread remainder of planting soil mix.
  - b. Reduce elevation of planting soil to allow for soil thickness of sod.
- C. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch (13 mm) of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit fine grading to areas that can be planted in the immediate future.
- D. Moisten prepared lawn areas before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- E. Restore areas if eroded or otherwise disturbed after finish grading and before planting.

#### 3.4 SEEDING

- A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h). Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
  1. Do not use wet seed or seed that is moldy or otherwise damaged.
- B. Sow seed at the rate of :
  1. Standard Fescue Lawn Mixture - 8 lb/1000 sq. ft. (2.3 to 3.6 kg/92.9 sq. m).
    - a. Tri Blend Turf type Fescue Mixtures "Southern Supreme" or "Dryspell" or approved equal
- C. Rake seed lightly into top 1/8 inch (3 mm) of topsoil, roll lightly, and water with fine spray.
- D. Protect seeded areas with erosion-control mats where shown, installed and anchored according to manufacturer's written instructions.
- E. Protect seeded areas with slopes not exceeding 1:4 by spreading straw mulch. Spread uniformly at a minimum rate of 1 bale per 1000 square feet to form a continuous blanket 1-1/2 inches (38 mm) in loose depth over seeded areas. Spread by hand, blower, or other suitable equipment.
  1. Anchor straw mulch by crimping into topsoil with suitable mechanical equipment.
  2. Bond straw mulch by spraying with asphalt emulsion at the rate of 10 to 13 gal./1000 sq. ft. (38 to 49 L/92.9 sq. m). Take precautions to prevent damage or staining of structures or other plantings adjacent to mulched areas. Immediately clean damaged or stained areas.
- F. Protect seeded areas from hot, dry weather or drying winds by applying compost mulch, peat mulch, planting soil, or topsoil within 24 hours after completing seeding operations. Soak and scatter uniformly to a depth of 3/16 inch (4.8 mm) and roll to a smooth surface.

3.5 SODDING

- A. Lay sod within 24 hours of harvesting. Do not lay sod if dormant or if ground is frozen or muddy.
- B. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
  - 1. Lay sod across angle of slopes exceeding 1:3.
  - 2. Anchor sod on slopes exceeding 1:6 with wood pegs or steel staples spaced as recommended by sod manufacturer but not less than 2 anchors per sod strip to prevent slippage.
- C. Saturate sod with fine water spray within two hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below sod.

3.6 SATISFACTORY LAWNS

- A. Satisfactory Seeded Lawn: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 5 by 5 inches (125 by 125 mm).
- B. Satisfactory Sodded Lawn: At end of maintenance period, a healthy, well-rooted, even-colored, viable lawn has been established, free of weeds, open joints, bare areas, and surface irregularities.

3.7 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by lawn work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Erect barricades and warning signs as required to protect newly planted areas from traffic. Maintain barricades throughout maintenance period and remove after lawn is established.
- C. Remove erosion-control measures after grass establishment period.

END OF SECTION 02920



## SECTION 02930 - EXTERIOR PLANTS

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Section Includes:

1. Plants.
2. Planting soils.
3. Tree stabilization.
4. Landscape edgings.

- B. Related Sections:

1. Division 2 Section "Site Clearing" for protection of existing trees and plantings, topsoil stripping and stockpiling, and site clearing.
2. Division 02 Section "Tree Protection and Trimming" for protecting, trimming, pruning, repairing, and replacing existing trees to remain that interfere with, or are affected by, execution of the Work.
3. Division 2 Section "Earthwork" for excavation, filling, and rough grading and for subsurface aggregate drainage and drainage backfill materials.
4. Division 2 Section "Subdrainage" for below-grade drainage of landscaped areas, paved areas, and wall perimeters.
5. Division 2 Section "Lawns and Grasses" for turf (lawn) and meadow planting, hydroseeding, and erosion-control materials.

#### 1.3 UNIT PRICES

- A. Work of this Section is affected by unit prices specified in Part III "Form of Proposal and Basis of Payment"
  1. Unit prices apply to authorized work covered by quantity allowances.
  2. Unit prices apply to additions to and deletions from Work as authorized by Change Orders.

#### 1.4 DEFINITIONS

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Balled and Burlapped Stock: Plants dug with firm, natural balls of earth in which they were grown, with ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required; wrapped with natural or untreated burlap, tied, rigidly supported, and drum laced with natural

biodegradable twin, jute and or wire basket with the root flare visible at the surface of the ball as recommended by ANSI Z60.1.

- C. Balled and Potted Stock: Plants dug with firm, natural balls of earth in which they are grown and placed, unbroken, in a container. Ball size is not less than diameter and depth recommended by ANSI Z60.1 for type and size of plant required.
- D. Bare-Root Stock: Plants with a well-branched, fibrous-root system developed by transplanting or root pruning, with soil or growing medium removed, and with not less than minimum root spread according to ANSI Z60.1 for type and size of plant required.
- E. Container-Grown Stock: Healthy, vigorous, well-rooted plants grown in a container, with a well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for type and size of plant required.
- F. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- G. Fabric Bag-Grown Stock: Healthy, vigorous, well-rooted plants established and grown in-ground in a porous fabric bag with well-established root system reaching sides of fabric bag. Fabric bag size is not less than diameter, depth, and volume required by ANSI Z60.1 for type and size of plant.
- H. Finish Grade: Elevation of finished surface of planting soil.
- I. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- J. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- K. Pests: Living organisms that occur where they are not desired, or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- L. Planting Area: Areas to be planted.
- M. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- N. Plant; Plants; Plant Material: These terms refer to vegetation in general, including trees, shrubs, vines, ground covers, ornamental grasses, bulbs, corms, tubers, or herbaceous vegetation.
- O. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- P. Stem Girdling Roots: Roots that encircle the stems (trunks) of trees below the soil surface.
- Q. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

- R. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- S. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- T. Planting Completion: The date of completion of all work related to a specific project including installation of plants, lawns and grasses, etc.

#### 1.5 SUBMITTALS

- A. Product Data: For each type of product indicated, including soils.
  - 1. Plant Materials: Include quantities, sizes, quality, and sources for plant materials.
  - 2. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to the Project.
  - 3. Plant Photographs: Include color photographs in 1Mb. Digital files or 3- by 5-inch print format of each required species and size of plant material as it will be furnished to the Project. Take photographs from an angle depicting true size and condition of the typical plant to be furnished. Include a scale rod or other measuring device in each photograph. For species where more than 12 plants are required, include a minimum of three photographs showing the average plant, the best quality plant, and the worst quality plant to be furnished. Identify each photograph with the full scientific name of the plant, plant size, and name of the growing nursery.
- B. Samples for Verification: For each of the following:
  - 1. Trees and Shrubs: Three samples of each variety and size delivered to the site for review. Maintain approved samples on-site as a standard for comparison.
  - 2. Organic Compost & Mulch: 1 pint volume of each organic mulch required; in sealed plastic bags labeled with composition of materials by percentage of weight and source of mulch. Each Sample shall be typical of the lot of material to be furnished; provide an accurate representation of color, texture, and organic makeup.
- C. Qualification Data: For qualified landscape Installer. Include list of similar projects completed by Installer demonstrating Installer's capabilities and experience. Include project names, addresses, and year completed, and include names and addresses of owners' contact persons.
- D. Product Certificates: For each type of manufactured product, from manufacturer, and complying with the following:
  - 1. Manufacturer's certified analysis of standard products.
  - 2. Analysis of other materials by a recognized laboratory made according to methods established by the Association of Official Analytical Chemists, where applicable.
- E. Material Test Reports: For imported topsoil.
- F. Maintenance Instructions: Procedures including watering, fertilizer, pruning, weeding, disease control, etc. for proper maintenance of plants during a calendar year. Contractor to submit maintenance schedule before start of required maintenance periods.
- G. Warranty: Sample of special warranty.

## 1.6 QUALITY ASSURANCE

- A. **Installer Qualifications:** A qualified landscape Installer whose work has resulted in successful establishment of plants.
1. **Professional Membership:** Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
  2. **Experience:** Five years' experience in landscape installation similar in scale and scope to the requirements of this Project
  3. **Installer's Field Supervision:** Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
  4. **Personnel Certifications:** Installer's field supervisor shall have certification in one of the following categories from the Professional Landcare Network:
    - a. Certified Landscape Technician - Exterior, with installation and maintenance, specialty area(s), designated CLT-Exterior.
    - b. Certified Ornamental Landscape Professional, designated COLP.
    - c. Certified ISA Arborist
  5. **Pesticide Applicator:** State licensed, commercial.
  6. **Maintenance Proximity:** Not more than two hours' normal travel time from Installer's place of business to Project site.
- B. **Soil-Testing Laboratory Qualifications:** An independent or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- C. **Soil Analysis:** For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of the soil.
1. Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
  2. The soil-testing laboratory shall oversee soil sampling; with depth, location, and number of samples to be taken per instructions from Landscape Architect. A minimum of five representative samples shall be taken from varied locations for each soil to be used or amended for planting purposes.
  3. Report suitability of tested soil for plant growth.
    - a. Based upon the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. or volume per cu. yd. for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
    - b. Report presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.
- D. Provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.
- E. **Measurements:** Measure according to ANSI Z60.1. Do not prune to obtain required sizes.
1. **Trees and Shrubs:** Measure with branches and trunks or canes in their normal position. Take height measurements from or near the top of the root flare for field-grown stock and container grown stock. Measure main body of tree or shrub for height and spread; do not measure branches

- or roots tip to tip. Take caliper measurements 6 inches above the root flare for trees up to 4-inch caliper size, and 12 inches above the root flare for larger sizes.
2. Other Plants: Measure with stems, petioles, and foliage in their normal position.

F. Plant Material Observation: Landscape Architect shall observe plant material either at place of growth or at site before planting for compliance with requirements for genus, species, variety, cultivar, size, and quality. Landscape Architect retains right to observe trees and shrubs further for size and condition of balls and root systems, pests, disease symptoms, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

1. Notify Landscape Architect of sources of planting materials seven days in advance of delivery to site.

G. Pre-installation Conference: Conduct conference at Project site unless otherwise advised.

#### 1.7 DELIVERY, STORAGE, AND HANDLING

A. Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws if applicable.

B. Bulk Materials:

1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.

C. Deliver bare-root stock plants freshly dug. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting.

D. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.

E. Handle planting stock by root ball.

F. Store bulbs, corms, and tubers in a dry place at 60 to 65 deg F until planting.

G. Deliver plants after preparations for planting have been completed, and install immediately. If planting is delayed more than six hours after delivery, set plants and trees in their appropriate aspect (sun, filtered sun, or shade), protect from weather and mechanical damage, and keep roots moist.

1. Heel-in bare-root stock. Soak roots that are in dry condition in water for two hours. Reject dried-out plants.
2. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
3. Do not remove container-grown stock from containers before time of planting.



4. Water root systems of plants stored on-site deeply and thoroughly with a fine-mist spray. Water as often as necessary to maintain root systems in a moist, but not overly-wet condition.

#### 1.8 PROJECT CONDITIONS

- A. Field Measurements: Verify actual grade elevations, service and utility locations, irrigation system components, and dimensions of plantings and construction contiguous with new plantings by field measurements before proceeding with planting work.
- B. Interruption of Existing Services or Utilities: Do not interrupt services or utilities to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary services or utilities according to requirements indicated:
  1. Notify Landscape Architect no fewer than three days in advance of proposed interruption of each service or utility.
  2. Do not proceed with interruption of services or utilities without Landscape Architect's written permission.
- C. Planting Restrictions: Plant during one of the following periods unless otherwise authorized by Owner/Landscape Architect. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.
  1. Spring Planting: March 1<sup>st</sup> to May 15th.
  2. Fall Planting: September 1<sup>st</sup> to December 15th.
- D. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions and warranty requirements.
- E. Coordination with Turf Areas (Lawns): Plant trees, shrubs, and other plants after finish grades are established and before planting turf areas unless otherwise indicated.
  1. When planting trees, shrubs, and other plants after planting turf areas, protect turf areas, and promptly repair damage caused by planting operations.

#### 1.9 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship, or growth within specified warranty period.
  1. Failures include, but are not limited to, the following:
    - a. Death and unsatisfactory growth, except for defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
    - b. Structural failures including plantings falling or blowing over.
    - c. Faulty performance of tree stabilization.
    - d. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
  2. Warranty Periods from Date of Planting Completion:
    - a. Trees, Shrubs, Vines, and Ornamental Grasses: 24 months.
    - b. Ground Covers, Biennials, Perennials, and Other Plants: 24 months.

- c. Annuals: Three months.
- 3. Include the following remedial actions as a minimum:
  - a. Immediately remove dead plants and replace unless required to plant in the succeeding planting season.
  - b. Replace plants that are more than 10-15% percent dead or in an unhealthy condition at end of warranty period.
  - c. A limit of one replacement of each plant will be required except for losses or replacements due to failure to comply with requirements.
  - d. Provide extended warranty for period equal to original warranty period, for replaced plant material.

#### 1.10 MAINTENANCE SERVICE

- A. Initial Maintenance Service for Trees, Shrubs & Perennials: Provide maintenance by skilled employees of landscape Installer. Maintain as required. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.
  - 1. Maintenance Period: 24 months from date of planting completion.
- B. Initial Maintenance Service for Ground Cover and Other Plants: Provide maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after plants are installed and continue until plantings are acceptably healthy and well established but for not less than maintenance period below.
  - 1. Maintenance Period: 24 months from date of planting completion.
- C. Continuing Maintenance Proposal: From Installer to Owner, in the form of a standard yearly (or other period) maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options.

### PART 2 - PRODUCTS

#### 2.1 PLANT MATERIAL

- A. General: Furnish nursery-grown plants true to genus, species, variety, cultivar, stem form, shearing, and other features indicated in Plant Schedule or Plant Legend shown on Drawings and complying with ANSI Z60.1; and with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
  - 1. Trees with damaged, crooked, or multiple leaders; tight vertical branches where bark is squeezed between two branches or between branch and trunk ("included bark"); crossing trunks; cut-off limbs more than 3/4 inch in diameter; or with stem girdling roots will be rejected.
  - 2. Collected Stock: Do not use plants harvested from the wild, from native stands, from an established landscape planting, or not grown in a nursery unless otherwise indicated.
  - 3. All plant material shall be grown in zone 5 or zone 6.

- B. Provide plants of sizes, grades, and ball or container sizes complying with ANSI Z60.1 for types and form of plants required. Plants of a larger size may be used if acceptable to Architect, with a proportionate increase in size of roots or balls.
- C. Root-Ball Depth: Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting.
- D. Labeling: Label each plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of common name and full scientific name, including genus and species. Include nomenclature for hybrid, variety, or cultivar, if applicable for the plant as shown on Drawings.
- E. If formal arrangements or consecutive order of plants is shown on Drawings, select stock for uniform height and spread, and number the labels to assure symmetry in planting.
- F. Annuals and Biennials: Provide healthy, disease-free plants of species and variety shown or listed, with well-established root systems reaching to sides of the container to maintain a firm ball, but not with excessive root growth encircling the container. Provide only plants that are acclimated to outdoor conditions before delivery and that are in bud but not yet in bloom.

## 2.2 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
  - 1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.
  - 2. Class: O, with a minimum of 95 percent passing through No. 8 sieve and a minimum of 55 percent passing through No. 60 sieve.
  - 3. Provide lime in form of ground dolomitic limestone.
- B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent sulfur, with a minimum of 99 percent passing through No. 6 sieve and a maximum of 10 percent passing through No. 40 sieve.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Aluminum Sulfate: Commercial grade, unadulterated.
- E. Perlite: Horticultural perlite, soil amendment grade.
- F. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 sieve.
- G. Sand: Clean, washed, natural or manufactured, and free of toxic materials.
- H. Diatomaceous Earth: Calcined, 90 percent silica, with approximately 140 percent water absorption capacity by weight.
- I. Zeolites: Mineral clinoptilolite with at least 60 percent water absorption by weight.

### 2.3 ORGANIC SOIL AMENDMENTS

- A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
  - 1. Organic Matter Content: 50 to 60 percent of dry weight.
  - 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- B. Sphagnum Peat: Partially decomposed sphagnum peat moss, finely divided or granular texture, with a pH range of 3.4 to 4.8.
- C. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.

### 2.4 FERTILIZERS

- A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 1 percent nitrogen and 10 percent phosphoric acid.
- B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
  - 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
  - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.
- C. Planting Tablets: Tightly compressed chip type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots.
  - 1. Size: 10-gram tablets.
  - 2. Nutrient Composition: 20 percent nitrogen, 10 percent phosphorous, and 5 percent potassium, by weight plus micronutrients.
- D. Chelated Iron: Commercial-grade FeEDDHA for dicots and woody plants, and commercial-grade FeDTPA for ornamental grasses and monocots.

### 2.5 PLANTING SOILS

- A. Planting Soil: Imported topsoil complying with ASTM D5268, a pH range of 5.5 to 7, a minimum of 4 percent organic content and from off-site sources. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from agricultural land, bogs, or marshes.
  - 1. Additional Properties of Imported Topsoil: Screened and free of stones 1 inch or larger in any dimension; free of roots, plants, sod, clods, clay lumps, pockets of coarse sand, paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, building debris, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, acid, and other extraneous materials

harmful to plant growth; free of obnoxious weeds and invasive plants including quackgrass, Johnsongrass, poison ivy, nutsedge, nimblewill, Canada thistle, bindweed, bentgrass, wild garlic, ground ivy, perennial sorrel, and bromegrass; not infested with nematodes; grubs; or other pests, pest eggs, or other undesirable organisms and disease-causing plant pathogens; friable and with sufficient structure to give good tilth and aeration. Continuous, air-filled pore space content on a volume/volume basis shall be at least 15 percent when moisture is present at field capacity. Soil shall have a field capacity of at least 15 percent on a dry weight basis.

2. Stones may comprise no more than 10 percent of the total soil volume
3. Mix imported topsoil with the following soil amendments and fertilizers in the following quantities to produce planting soil:
  - a. Ratio of Loose Compost to Topsoil by Volume: 1:4.
  - b. Ratio of Loose Sphagnum Peat to Topsoil by Volume: 1:4.
  - c. Weight of Lime per 1000 Sq. Ft.: as required by soil test.
  - d. Weight of Aluminum Sulfate per 1000 Sq. Ft.: as required by soil test.
  - e. Weight of Agricultural Gypsum per 1000 Sq. Ft.: as required by soil test.
  - f. Weight of Bonemeal per 1000 Sq. Ft.: as required by soil test.
  - g. Weight of Slow-Release Fertilizer per 1000 Sq. Ft.: as recommended by manufacturer.

## 2.6 MULCHES

- A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
  1. Type: Shredded hardwood bark.
  2. Size Range: 2 inches maximum, 1/2 inch minimum.
  3. Color: Natural Dye Free.

## 2.7 PESTICIDES

- A. General: Pesticide registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
- B. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
- C. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.

## 2.8 TREE STABILIZATION MATERIALS

- A. Stakes and Guys:
  1. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, free of knots, holes, cross grain, and other defects, 2-by-2-inch nominal by length indicated, pointed at one end.
  2. Flexible Ties: Wide rubber or elastic bands or straps of length required to reach stakes.
  3. Tree-Tie Webbing: UV-resistant polypropylene.
  4. Retain first subparagraph below for tall and large-caliper trees.

5. Proprietary Staking-and-Guying Devices: Proprietary stake and adjustable tie systems to secure each new planting by plant stem; sized as indicated and per manufacturer's written recommendations.
  - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include the following or approved equal:
    - 1) Arborbrace; ArborBrace Tree Guying System
    - 2) Tree-Guy Systems

## 2.9 MISCELLANEOUS PRODUCTS

- A. Wood Pressure-Preservative Treatment: AWPAC2, with waterborne preservative for soil and freshwater use, acceptable to authorities having jurisdiction, and containing no arsenic; including ammoniacal copper arsenate, ammoniacal copper zinc arsenate, and chromated copper arsenate.
- B. Root Barrier: Black, molded, modular panels manufactured with 50 percent recycled polyethylene plastic with ultraviolet inhibitors, 85 mils thick, with vertical root deflecting ribs protruding 3/4 inch out from panel, and each panel 24 inches wide.
- C. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturer's written instructions.
- D. Burlap: Non-synthetic, untreated, biodegradable.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance.
  1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
  2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
  3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
  4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

### 3.2 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways in accordance with all applicable provisions of the LFUCG engineering manual.
- C. Lay out individual tree and shrub locations and areas for multiple plantings. Stake locations, outline areas, adjust locations when requested, and obtain Architect's acceptance of layout before excavating or planting. Make minor adjustments as required.
- D. Apply anti-desiccant to trees and shrubs using power spray to provide an adequate film over trunks (before wrapping), branches, stems, twigs, and foliage to protect during digging, handling, and transportation.
  - 1. If deciduous trees or shrubs are moved in full leaf, spray with anti-desiccant at nursery before moving and again two weeks after planting.
- E. Wrap trees and shrubs with burlap fabric over trunks, branches, stems, twigs, and foliage to protect from wind and other damage during digging, handling, and transportation.

### 3.3 PLANTING AREA ESTABLISHMENT

- A. Loosen sub-grade of planting areas to a minimum depth of 6 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
  - 1. Thoroughly blend planting soil off-site before spreading.
    - a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
    - b. Mix lime with dry soil before mixing fertilizer.
  - 2. Spread planting soil to a depth of 12 inches but not less than required to meet finish grades after natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
    - a. Spread approximately one-half the thickness of planting soil over loosened subgrade. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil.
- B. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.
- C. Before planting, obtain Landscape Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

### 3.4 EXCAVATION FOR TREES AND SHRUBS

- A. Planting Pits and Trenches: Excavate circular planting pits with sides sloping inward at a 30-45 degree angle. Excavations with vertical sides are not acceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further

disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit smeared or smoothed during excavation.

1. Excavate approximately three times as wide as ball diameter for balled and burlapped stock.
  2. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
  3. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
  4. If area under the plant was initially dug too deep, add soil to raise it to the correct level and thoroughly tamp the added soil to prevent settling.
  5. Maintain required angles of repose of adjacent materials as shown on the Drawings. Do not excavate subgrades of adjacent paving, structures, hardscapes, or other new or existing improvements.
  6. Maintain supervision and protection of excavations at all times during the project.
  7. Keep excavations covered or otherwise protected when unattended by Installer's personnel.
  8. If drain tile is shown on Drawings or required under planting areas, excavate to top of porous backfill over tile.
- B. Subject to the acceptance of the Landscape Architect or Owner, subsoil and topsoil removed from excavations may be used as planting soil.
- C. Obstructions: Notify Landscape Architect if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.
1. Hardpan Layer: Drill 6-inch- diameter holes, 24 inches apart, into free-draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material.
- D. Fill excavations with water and allow to percolate away before positioning trees and shrubs.
- E. Drainage: Notify Architect if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting pits.

### 3.5 TREE, SHRUB, AND VINE PLANTING

- A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. If root flare is not visible, remove soil in a level manner from the root ball to where the top-most root emerges from the trunk. After soil removal to expose the root flare, verify that root ball still meets size requirements.
- B. Remove stem girdling roots and kinked roots on bare rooted plant material. Remove injured roots by cutting cleanly; do not break.
- C. Set balled and burlapped stock plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
1. Use planting soil for backfill.
  2. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
  3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.



4. Place planting tablets in each planting pit when pit is approximately one-half filled; in amounts specified in soil reports from soil-testing laboratory. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
  5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- D. Set balled and potted stock plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
1. Use planting soil for backfill.
  2. Carefully remove root ball from container without damaging root ball or plant.
  3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
  4. Place planting tablets in each planting pit when pit is approximately one-half filled; in amounts recommended in soil reports from soil-testing laboratory. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
  5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- E. Set fabric bag-grown stock plumb and in center of planting pit or trench with root flare 1 inch above adjacent finish grades.
1. Use planting soil for backfill.
  2. Carefully remove root ball from fabric bag without damaging root ball or plant. Do not use planting stock if root ball is cracked or broken before or during planting operation.
  3. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
  4. Place planting tablets in each planting pit when pit is approximately one-half filled; in amounts recommended in soil reports from soil-testing laboratory. Place tablets beside the root ball about 1 inch from root tips; do not place tablets in bottom of the hole.
  5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- F. Set and support bare-root stock in center of planting pit or trench with root flare 1 inch above adjacent finish grade.
1. Use planting soil for backfill.
  2. Spread roots without tangling or turning toward surface, and carefully work backfill around roots by hand. Puddle with water until backfill layers are completely saturated. Plumb before backfilling, and maintain plumb while working backfill around roots and placing layers above roots.
  3. Place planting tablets in each planting pit when pit is approximately one-half filled; in amounts recommended in soil reports from soil-testing laboratory. Place tablets beside soil-covered roots about 1 inch from root tips; do not place tablets in bottom of the hole or touching the roots.
  4. Continue backfilling process. Water again after placing and tamping final layer of soil.
- G. When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

### 3.6 MECHANIZED TREE SPADE PLANTING

- A. Trees may be planted with an approved mechanized tree spade at the designated locations. Do not use tree spade to move trees larger than the maximum size allowed for a similar field-grown, balled-and-



# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
7/08/2014

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> J Smith Lanier & Co-Lexington Powell-Walton-Milward P O Box 2030 Lexington, KY 40588	<b>CONTACT NAME:</b> Paula Hardin	
	<b>PHONE (A/C, No, Ext):</b> 800 796-3567	<b>FAX (A/C, No):</b> 859 254-8020
<b>E-MAIL ADDRESS:</b> phardin@pwm-jsl.com		
<b>INSURED</b> Bluegrass Contracting Corp. 1075 Red Mile Road Lexington, KY 40504	<b>INSURER(S) AFFORDING COVERAGE</b>	
	<b>INSURER A:</b> Charter Oak Fire	<b>NAIC #</b> 25615
	<b>INSURER B:</b> Travelers Property Casualty Ins	<b>NAIC #</b> 36161
	<b>INSURER C:</b> KY Assoc. General Contractors	
	<b>INSURER D:</b> Allianz Insurance Company	<b>NAIC #</b> 35300
	<b>INSURER E:</b> Travelers Property Casualty Co.	<b>NAIC #</b> 25674
<b>INSURER F:</b>		

**COVERAGES**                      **CERTIFICATE NUMBER:**                      **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	GENERAL LIABILITY		DTCO6E947548COF	07/01/2014	07/01/2015	EACH OCCURRENCE	\$1,000,000	
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY					DAMAGE TO RENTED PREMISES (Ea occurrence)	\$300,000	
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR					MED EXP (Any one person)	\$5,000	
	<input checked="" type="checkbox"/> PD Ded:\$5,000					PERSONAL & ADV INJURY	\$1,000,000	
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	\$2,000,000
	<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC					PRODUCTS - COMP/OP AGG	\$2,000,000	
							\$	
E	AUTOMOBILE LIABILITY		DT810DT6E947548TIL	07/01/2014	07/01/2015	COMBINED SINGLE LIMIT (Ea accident)	\$1,000,000	
	<input checked="" type="checkbox"/> ANY AUTO					BODILY INJURY (Per person)	\$	
	<input type="checkbox"/> ALL OWNED AUTOS	<input type="checkbox"/> SCHEDULED AUTOS				BODILY INJURY (Per accident)	\$	
	<input checked="" type="checkbox"/> HIRED AUTOS	<input checked="" type="checkbox"/> NON-OWNED AUTOS				PROPERTY DAMAGE (Per accident)	\$	
							\$	
B	<input checked="" type="checkbox"/> UMBRELLA LIAB	<input checked="" type="checkbox"/> OCCUR	DTSMCUP6E947548TIL	07/01/2014	07/01/2015	EACH OCCURRENCE	\$8,000,000	
	<input type="checkbox"/> EXCESS LIAB	<input type="checkbox"/> CLAIMS-MADE				AGGREGATE	\$8,000,000	
	DED <input checked="" type="checkbox"/> RETENTION \$10,000						\$	
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY		188820	01/01/2014	01/01/2015	<input checked="" type="checkbox"/> WC STATUTORY LIMITS		
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> Y/N				E.L. EACH ACCIDENT	\$4,000,000	
	If yes, describe under DESCRIPTION OF OPERATIONS below	N/A				E.L. DISEASE - EA EMPLOYEE	\$4,000,000	
						E.L. DISEASE - POLICY LIMIT	\$4,000,000	
D	Equipment:		QT6606E920420	07/01/2014	07/01/2015	\$1,000 - Deductible		
	Scheduled Leased/Rented					See Details Below	\$500,000 - Limit	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

REF: Isaac Murphy Memorial Art Garden Trailhead

Certificate Holder is listed as Additional Insured as per written contract with respect to the General Liability and Auto Liability policies described above and subject to provisions and limitations of the policy.

General Liability coverage shall be primary and non-contributory. (See Attached Descriptions)

<b>CERTIFICATE HOLDER</b> Lexington Fayette Urban Co. Government 200 East Main Street Lexington, KY 40507	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE 



## DESCRIPTIONS (Continued from Page 1)

Coverage provides a 30 Day Notice of Cancellation.



**PART VIII**

**TECHNICAL SPECIFICATIONS**

**TABLE OF CONTENTS**

SECTION A	GENERAL PROVISIONS
SECTION B	FINAL CLEANUP
<b><u>GENERAL</u></b>	
SECTION 01100	SUMMARY
<b><u>SITWORK</u></b>	
SECTION 02230	SITE CLEARING
SECTION 02240	MAINTENANCE OF TRAFFIC
SECTION 02250	CONSTRUCTION STAKING
SECTION 02300	EARTHWORK
SECTION 02510	FACILITY WATER DISTRIBUTION
SECTION 02620	SUBDRAINAGE
SECTION 02630	STORM UTILITY DRAINAGE PIPING
SECTION 02741	HOT-MIXED ASPHALT PAVING
SECTION 02751	CEMENT AND CONCRETE PAVING
SECTION 02764	PAVEMENT AND JOINT SEALANTS
SECTION 02770	ROCK WALLS AND STEPS
SECTION 02780	UNIT PAVERS
SECTION 02781	POROUS UNIT PAVING
SECTION 02783	DETECTABLE WARNING TILE
SECTION 02870	SITE FURNISHINGS
SECTION 02920	LAWNS AND GRASSES
SECTION 02930	EXTERIOR PLANTS
<b><u>ELECTRICAL</u></b>	
SECTION 16000	GENERAL ELECTRICAL PROVISIONS
SECTION 16050	BASIC ELECTRICAL MATERIALS AND METHODS
SECTION 16110	CONDUIT AND RACEWAYS
SECTION 16120	CABLE, WIRE AND CONNECTORS
SECTION 16130	ELECTRICAL ENCLOSURES, BOXES AND FITTINGS
SECTION 16195	ELECTRICAL IDENTIFICATION
SECTION 16450	ELECTRICAL GROUNDING
SECTION 16470	PANELBOARDS
SECTION 16475	OVERCURRENT PROTECTIVE DEVICES
SECTION 16530	SITE LIGHTING

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burlapped root-ball diameter according to ANSI Z60.1, or larger than the manufacturer's maximum size recommendation for the tree spade being used, whichever is smaller.

- B. When extracting the tree, center the trunk within the tree spade and move tree with a solid ball of earth.
- C. Cut exposed roots cleanly during transplanting operations.
- D. Use the same tree spade to excavate the planting hole as was used to extract and transport the tree.
- E. Plant trees as shown on Drawings, following procedures in "Tree, Shrub, and Vine Planting" Article.
- F. Where possible, orient the tree in the same direction as in its original location.

### 3.7 TREE, SHRUB, AND VINE PRUNING

- A. Remove only dead, dying, or broken branches. Do not prune for shape.
- B. Prune, thin, and shape trees, shrubs, and vines as directed by Landscape Architect.
- C. Prune, thin, and shape trees, shrubs, and vines according to professional horticultural and arboricultural practices. Unless otherwise indicated by Landscape Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs; and prune to retain natural character.
- D. Do not apply pruning paint to wounds unless authorized by Owner/Landscape Architect.

### 3.8 TREE STABILIZATION

- A. Install trunk stabilization as follows unless otherwise indicated:
  - 1. Upright Staking and Tying: Stake trees of 2- through 5-inch caliper. Stake trees of less than 2-inch caliper only as required to prevent wind tip out. Use a minimum of two stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and to extend to the dimension shown on drawings above grade. Set stakes and space to avoid penetrating root balls or root masses.
  - 2. Use two stakes for trees up to 12 feet high and 2-1/2 inches or less in caliper; three stakes for trees less than 14 feet high and up to 4 inches in caliper. Space stakes equally around trees.
  - 3. Support trees with bands of flexible ties at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree.
- B. Staking and Guying: Stake and guy trees more than 14 feet in height and more than 3 inches in caliper unless otherwise indicated. Securely attach no fewer than three guys to stakes 30 inches long, driven to grade.
  - 1. Site-Fabricated Staking-and-Guying Method:
    - a. For trees more than 6 inches in caliper, anchor guys to wood deadmen buried at least 36 inches below grade. Provide turnbuckle for each guy wire and tighten securely.
    - b. Support trees with bands of flexible ties at contact points with tree trunk and reaching to turnbuckle. Allow enough slack to avoid rigid restraint of tree.
    - c. Support trees with strands of cable or multiple strands of tie wire, connected to the brass grommets of tree-tie webbing at contact points with tree trunk and reaching to turnbuckle. Allow enough slack to avoid rigid restraint of tree.



- d. Attach flags to each guy wire, 30 inches above finish grade.
  - e. Paint turnbuckles with luminescent white paint.
2. Proprietary Staking and Guying Device: Install staking and guying system sized and positioned as recommended by manufacturer unless otherwise indicated and according to manufacturer's written instructions.

### 3.9 ROOT-BARRIER INSTALLATION

- A. Where indicated on the Drawings, install root barrier where trees are planted within 60 inches of paving or other hardscape elements, such as walls, curbs, and walkways.
- B. Align root barrier vertically with bottom edge angled at 20 degrees away from the paving or other hardscape element and run it linearly along and adjacent to the paving or other hardscape elements to be protected from invasive roots.
- C. Install root barrier continuously for a distance of 60 inches in each direction from the tree trunk, for a total distance of 10 feet per tree. If trees are spaced closer, use a single continuous piece of root barrier.
  1. Position top of root barrier per manufacturer's recommendations.
  2. Overlap root barrier a minimum of 12 inches at joints.
  3. Do not distort or bend root barrier during construction activities.
  4. Do not install root barrier surrounding the root ball of tree.

### 3.10 GROUND COVER AND PLANT PLANTING

- A. Set out and space ground cover and plants other than trees, shrubs, and vines as indicated in even rows with triangular spacing.
- B. Use planting soil for backfill.
- C. Dig holes large enough to allow spreading of roots.
- D. For rooted cutting plants supplied in flats, plant each in a manner that will minimally disturb the root system but to a depth not less than two nodes.
- E. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- F. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
- G. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

### 3.11 PLANTING AREA MULCHING

- A. Mulch backfilled surfaces of planting areas and other areas indicated.
  1. Trees and Shrubs in Turf Areas: Apply organic mulch ring of 3-inch average thickness, with 24-inch radius around trunks or stems. Do not place mulch within 3 inches of trunks or stems.

2. Organic Mulch in Planting Areas: Apply 3-inch minimum thickness of organic mulch extending 12 inches beyond edge of individual planting pit or trench and over whole surface of planting area, and finish level with adjacent finish grades. Do not place mulch within 6 inches of trunks or stems.

### 3.12 EDGING INSTALLATION

- A. Aluminum Edging: Install aluminum edging where indicated according to manufacturer's written instructions. Anchor with aluminum stakes spaced approximately 36 inches apart, driven below top elevation of edging.
- B. Shovel-Cut Edging: Separate mulched areas from turf areas, curbs, and paving with a 45-degree, 4- to 6-inch-deep, shovel-cut edge as shown on Drawings.

### 3.13 PLANT MAINTENANCE

- A. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring planting saucers, adjusting and repairing tree-stabilization devices, resetting to proper grades or vertical position, and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and shrubs free of insects and disease.
- B. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of subsidence.
- C. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards. Treatments include physical controls such as hosing off foliage, mechanical controls such as traps, and biological control agents.
- D. Remove tree stabilization devices after 1 year from date of installation.
- E. Water trees as required to provide 1" of water per week on average. Water remaining plantings as recommended by manufacturer.

### 3.14 CHEMICAL APPLICATION

- A. Apply pesticides and other chemical products and biological control agents in accordance with authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Pre-Emergent Herbicides (Selective and Non-Selective): Apply to tree, shrub, and ground-cover areas in accordance with manufacturer's written recommendations. Do not apply to seeded areas.
- C. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

### 3.15 CLEANUP AND PROTECTION

- A. During planting, keep adjacent paving and construction clean and work area in an orderly condition.

- B. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings.
- C. After installation and before the final inspection for completion, remove nursery tags, nursery stakes, tie tape, labels, wire, burlap, and other debris from plant material, planting areas, and Project site.

3.16 DISPOSAL

- A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION 02930

## SECTION 03366 - WATER-BASED NON-REACTIVE STAINED CONCRETE

### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to Work of this Section.
- B. Section Includes:
  - 1. Water-based non-reactive color stained concrete floor finish.
  - 2. Sealer.
- C. Related Sections:
  - 1. Division 3 Section "Cast-In-Place" for general applications of concrete.
  - 2. Division 2 Section "Pavement and Joint Sealants"

#### 1.2 SUBMITTALS

- A. Product Data: Manufacturer's technical data sheets, MSDS and installation instructions for each product specified.
- B. Samples for Initial Selection or Custom Color Samples Provided by Manufacturer per Specifier's Requirements: Manufacturer's color charts showing full range of colors available.
- C. Qualification Data: For firms indicated in "Quality Assurance" Article, including lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

#### 1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer of stain and sealer products shall have minimum 10 years experience in the production and testing of concrete color stains.
- B. Installer Qualifications: Minimum 5 years experience in staining applications and successfully completed not less than 5 projects comparable in scale and complexity.
- C. Substitutions: The use of any products other than those specified shall be considered providing that the Contractor requests its use in writing within 14 days prior to bid date. This request shall be accompanied by:
  - 1. A certificate of compliance from the material manufacturer stating that the proposed products meet or exceed the requirements specified.
  - 2. Documented proof that the proposed material has a 10 year proven record of performance for staining concrete substrates, confirmed by at least 5 local projects that the Architect can examine.
  - 3. Documented proof from Construction Technology Laboratories in Skokie, IL, that the proposed material has an average slip index reading greater than 7.9 and 6.3 on broom finish and stamped finish surfaces respectively that are both dry and wet.
- D. Regulatory Requirements:
  - 1. Products shall comply with the United States Clean Air Act for maximum Volatile Organic Compound (VOC) content as specified in PART 2 of this section.

- E. Source Limitations: Obtain each specified material from same source and maintain high degree of consistency in workmanship throughout Project.
- F. [Mockups]:
  - 1. Provide under provisions of Division 1 Section "Quality Requirements."
  - 2. At location on Project selected by Landscape Architect, prepare mockup 4 by 4 feet for review and approval.
  - 3. Construct mockup using processes and techniques intended for use on permanent work, including curing procedures. Include samples of control, construction, and expansion joints in [mockup] panels.
  - 4. Mockup shall be stained and sealed by the individual workers who will actually be performing the work for the Project.
  - 5. Obtain written approval of the mockup from Landscape Architect 1 week before start of work.
  - 6. Retain approved [mockup] through completion of the Work for use as a quality standard for finished work.
  - 7. Approved mockup may become part of the completed Work if undisturbed at time of Substantial Completion
  - 8. Remove mockup when directed.

#### 1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver the specified products in original, unopened containers with legible manufacturer's identification and information.
- B. Store specified products in conditions recommended by the manufacturer.

#### 1.5 PROJECT CONDITIONS

- A. Environmental Conditions: Maintain an ambient temperature of between 50° and 90°F during application and at least 48 hours after application.
- B. Protection: Precautions shall be taken to avoid damage, soiling or contamination of any surfaces near the work zone. Protect completed stain work from moisture or contamination.

#### 1.6 PRE-JOB CONFERENCE

- A. One week prior to the placement of Water-based Non-Reactive Stain a meeting will be held to discuss the project and application of materials.
- B. It is suggested that the Landscape Architect, General Contractor, Subcontractor and a Manufacturer or Authorized Distributor Representative to be present.

### PART 2 – PRODUCTS

#### 2.1 ACCEPTABLE MANUFACTURERS

##### A. Manufacturer:

- 1. NewLook International, Inc., 1525 S. Gladiola Street, Suite 8, Salt Lake City, UT 84104; (801) 886-9495

2. Sundek, 1661 Stokley Lane, Old Hickory, TN 37138; (615) 822-7134

## 2.2 MATERIALS

- A. Water-based Non-Reactive Solid Color Stains: Water-based, breathable, non-acrylic based, non-acid based, staining products that do not react with concrete (non-reactive); penetrates into concrete surface pores and chemically bonds with cured concrete or cementitious toppings to produce solid color effects (opaque); will not change the texture of concrete surface; can be used to cover faded and discolored concrete or cementitious material. Designed for use on horizontal or vertical surfaces. Does not need to be sealed but is compatible with water-based, solid-based, acrylic based and solvent-based sealers.
  1. Colors: As selected by Owner & City Engineer.
- B. Sealers:
  1. Sealer: Premium-quality, one-component, clear, breathable, water-based sealer resistant to staining, abrasion and ultraviolet (UV) radiation and delamination due to chlorine; does not need to be removed or stripped before follow-up maintenance applications of color stain; designed to protect exterior concrete hardscapes, floors, cementitious toppings, and vertical concrete.
- C. Sealants:
  1. Finish: As selected by Owner & City Engineer.
- D. Application Brush: Thick bristle, industrial grade, flag-tip broom.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Verification of Conditions: [Contractor] [Construction Manager] shall examine areas and conditions under which work will be performed and identify conditions detrimental to proper and timely completion of work. Do not proceed until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. New Concrete:
  1. Newly placed concrete shall be sufficiently cured to allow concrete to become reactive, minimum 28 days.
  2. Do not use liquid curing materials. Cure concrete flatwork with new, unwrinkled, non-staining, high quality curing paper. Do not overlap curing paper.
  3. Surfaces shall be cured using the same method and different sections (pours) chemically stained when the concrete is the same age.
  4. Immediately prior to chemically staining, thoroughly clean the concrete. Sweep surfaces with a 3000 psi minimum pressure wash or scrub using a rotary floor machine. Use suitable, high-quality commercial detergents to facilitate cleaning. Rinse surfaces after cleaning until rinse water is completely clean and no debris or residue remains on or in concrete surface. Allow floor to dry completely prior to application of floor stain.
  5. Concrete surfaces must be uniformly slip-resistant and profiled to meet a Concrete Surface Preparation (CSP) profile of 1-2 per ICRI guidelines.
  6. Some concrete may require abrading to open the surface and make it sufficiently penetrable. In these instances the concrete surface must be sanded using an 60-80 mesh-sanding screen or a grit

brush. After sanding, all residue must be removed by power vacuuming. The surface should then be pressure-washed or scrubbed using a rotary floor machine.

7. For preparation, the sandblaster should be capable of producing a light, uniform sandblast and be equipped with a dust collector.
8. For preparation, the pressure washer should be equipped with a fan tip and have a minimum pressure capability of 3000 psi. Hot water capability may facilitate cleaning of existing concrete.
9. Acid washing (etching) may be required when the above surface preparation does not yield adequate penetration or if there are excessive alkali deposits. The reacted residue must be abraded using a low-speed floor machine equipped with a 60 mesh screen or a grit brush and then thoroughly rinsed until the rinse water is clear and free of solids, a minimum of two times. After rinsing, neutralize any remaining acid residue by washing with a solution of baking soda (sodium bicarbonate) and water. (Test pH of floor should be 7 or higher.)

B. Existing Concrete:

1. Clean concrete surfaces so that surfaces are completely penetrable before receiving the initial application of water-based non-reactive stain. Test surfaces to receive stain by spotting with water. Water should immediately darken the substrate and be readily absorbed. If water beads and does not penetrate or only penetrates in some areas, additional surface preparation and testing may be required.
2. Cleaning method used depends on the condition of the concrete surface. To remove dirt and other contaminants, pressure-wash the surface with 3000 psi and 25° fan tip; sweep entire surface keeping fan tip a minimum distance of 6 inches from concrete surface; detergents and other commercial grade cleaners should be also considered and tested.
3. Rinse concrete substrates until rinse water is completely clean.
4. For preparation of interior floors, the rotary floor machine should be heavy duty and operate at approximately 175 rpm. With a 60-80 mesh-sanding screen or a grit brush, remove all contaminants and weak cement paste from the surface. This will also open the surface to allow the chemical stain to penetrate.
5. Acid washing may also be considered or required. (Refer to New Concrete Preparation.)

- C. Scoring: Score decorative jointing in concrete surfaces 1/8-inch (3.2 mm) deep with diamond blades. Rinse until water is completely clean.

### 3.2 APPLICATION OF COLOR STAIN

- A. Concrete surfaces shall be dry and properly prepared as described above. Protect surrounding areas from over-spray, run-off and tracking. Divide surfaces into small work sections using wall, joint lines, or other stationary breaks as natural stopping points.
- B. Apply COLOR STAIN at the coverage rate recommended by the manufacturer and use application equipment described in the manufacturer's printed technical literature. The color of the liquid water-based stain has no resemblance to the final color produced on the concrete substrate. Re-broom COLOR STAIN as it dries without addition stain as recommended by the manufacturer.
- C. Apply two (2) coats of COLOR STAIN to the substrate with an applicator brush according to manufacturer's requirements.
- D. Dry time depends on wind conditions, temperatures, and humidity levels.
- E. The second coat, if required, should be applied after the first coat has dried sufficiently and can be walked on without damage, normally 1-3 hours after application depending on temperature and humidity. Do not apply a third coat.

### 3.4 APPLICATION OF SEALER

- A. Concrete substrate shall be completely dry.
- B. Sealer shall be produced by the water-based non-reactive stain manufacturer.
- C. After the final COLOR STAIN application has dried sufficiently, normally 4-14 hours at 75° F (24° C) and 50% relative humidity, remove all contaminates from the surface by dry mopping if required.
- D. Apply sealer according to manufacturer's written instructions at a rate of 200 to 300 square feet per gallon per coat. Two coats are required.
- E. Maintain a wet edge at all times.
- F. Allow sealer to completely dry before applying additional coats.
- G. Apply second coat of sealer at 90° to the direction of the first coat using the same application method and rates.
- H. Seal horizontal joints in areas subject to pedestrian or vehicular traffic.

### 3.5 PROTECTION

- A. Protect floor from traffic for at least 72 hours after final application of sealer.

### 3.6 MAINTENANCE

- A. Maintain water-based non-reactive stained floors (without sealer) by sweeping. Clean spills when they occur and rinse dirt off with water. Wet-clean heavily soiled areas by mopping or by scrubbing with a scrubbing brush and a suitable detergent. Maintain interior floors using high-quality concrete cleaners and following manufacturer's instructions and safety requirements. If stain color fades over time, the surface is damaged or if the stain is removed during maintenance procedures, prepare the surface and re-apply COLOR STAIN.
- B. Maintain water-based non-reactive stained floors with sealer by sweeping. Clean spills when they occur and rinse dirt off with water. Wet-clean heavily soiled areas by mopping or by scrubbing with a rotary floor machine equipped with a scrubbing brush and a suitable, high-quality commercial detergent. Maintain interior floors that require polishing by using a compatible, premium-grade, emulsion-type, commercial floor polish, following manufacturer's instructions and safety requirements.

END OF SECTION - 03366



## DIVISION 16—GENERAL ELECTRICAL PROVISIONS

SECTION	A	GENERAL PROVISIONS
	B	SCOPE OF THE ELECTRICAL WORK
	C	REQUIRED SHOP DRAWINGS, ETC.
	D	CUTTING, PATCHING & REPAIRING
	E	EXCAVATION, TRENCHING, BACKFILLING & GRADING
	F	GROUNDING
	G	RACEWAYS & FITTINGS
	H	CONDUCTORS, IDENTIFICATION, SPLICING DEVICES & CONNECTORS
	I	CABINETS, OUTLET BOXES & PULL BOXES
	J	ELECTRICAL DISTRIBUTION EQUIPMENT

### SECTION 16A—GENERAL PROVISIONS

- Part 1—General
- Part 2—Intent
- Part 3—Electrical Drawings and Specifications
- Part 4—Examination of Site and Conditions
- Part 5—Equipment and Materials Substitutions
- Part 6—Supervision of Work
- Part 7—Codes, Rules, Permits, Fees, Inspections, Regulations, Etc.
- Part 8—Cost Breakdowns
- Part 9—Guarantees and Warranties
- Part 10—Inspection, Approvals and Tests
- Part 11—Changes in Electrical Work
- Part 12—Claims for Extra Cost
- Part 13—Surveys, Measurements and Grades
- Part 14—Temporary Use of Equipment
- Part 15—Temporary Services
- Part 16—As-Built Drawings
- Part 17—Materials and Workmanship
- Part 18—Qualifications of Workers
- Part 19—Conduct of Workers
- Part 20—Cooperation and Coordination between Trades
- Part 21—Protection of Equipment
- Part 22—Concrete Work
- Part 23—Restoration of New or Existing Shrubs, Paving, Etc.
- Part 24—Maintenance of Existing Utilities and Lines
- Part 25—Final Connections to Equipment
- Part 26—Accessibility
- Part 27—Cutting and Patching
- Part 28—Weatherproofing
- Part 29—Operating Instructions
- Part 30—Scaffolding, Rigging and Hoisting

Part 31—Cleaning  
Part 32—Painting

PART 1—GENERAL

- A. The Instructions to Bidders, General and Special Conditions, and all other contract documents shall apply to the Electrical Contractor's work as well as to each Sub-contractor's work. Each Contractor is directed to be familiar in detail with all documents pertinent to this Contract. In case of conflict between these General Provisions and the General and/or Special Conditions, the affected Contractor shall contact the Engineer for clarification and final determination.
- B. Each Electrical Contractor shall be governed by any alternates, unit prices and Addenda insofar as they may affect his or her part of the work.
- C. The work included in this division consists of the furnishing of all labor, equipment, transportation, excavation, supplies, material and appurtenances and performing all operations necessary for the satisfactory installation of complete and operating Electrical Systems indicated on the drawings and/or specified herein.
- D. Any materials, labor, equipment or services not mentioned specifically herein which may be necessary to complete or perfect any part of the Electrical Systems in a substantial manner, in compliance with the requirements stated, implied, or intended in the drawings and specifications, shall be included as part of this Contract. With submission of bid, the Contractor shall give written notice of any materials or apparatus believed inadequate or unsuitable; in violation of laws, ordinances, rules or regulations of authorities having jurisdiction; and any necessary items of work omitted. In the absence of such written notice, it shall be understood that the Sub-Contractor has included the cost of all required items in the bid, and that he or she will be responsible for the approved satisfactory functioning of the entire system without extra compensations.
- E. It is not the intent of this section of the specifications to make any Contractor, other than the General Contractor responsible to the Owner and Engineer. All transactions such as submittal of shop drawings, claims for extra costs, requests for equipment or materials substitution, shall be done through the Engineer to the Owner. Also, this section of the Specifications shall not be construed as an attempt to arbitrarily assign responsibility of work, material, equipment or services to a particular trade or Contractor. Unless stated otherwise, the subdivision and assignment of work under the various sections shall be the responsibility of the Contractor.
- F. It is the intent of this Contract to deliver to the Owners a "like new" project once work is complete. Although plans and specifications are complete to the extent possible, it shall be the responsibility of the Contractors involved to remove and/or relocate or re-attach any existing or new systems which interfere with new equipment or materials to be installed by other trades without additional cost to the Owner.
- G. In general, and to the extent possible, all work shall be accomplished without interruption of the existing facilities' operations. Each Contractor shall advise the Owner at least forty-eight (48) hours prior to the interruption of any services. The Owner shall be advised of the exact time that interruption will occur and the length of time the interruption will occur. Failure to comply with this requirement may result in

complete work stoppage by the Contractors involved until a complete schedule of interruptions can be developed.

H. Definitions:

1. Electrical Contractor-Any Contractor whether bidding or working independently or under the supervision of a General Contractor and/or Construction Manager, who installs any type of Electrical work (power, lighting, television, phone, intercom, fire detection and alarm, ground fault detection, gas detection, etc.).
2. Electrical Sub-contractor - Any Contractor contracted to, or employed by, the Electrical Contractor for any work required by the Electrical Contractor.
3. Engineer - The Consulting Mechanical-Electrical Engineers, consulting to the Owner.
4. Furnish - Deliver to the site in good condition.
5. Provide - Furnish and install in complete working order.
6. Install - e.g., Install equipment furnished by others.
7. Contract Documents - All documents pertinent to the quality and quantity of all work to be performed on the project. Includes, but is not limited to: Plans, Specifications, Instructions to Bidders, General and Sub-Contractors, Unit Prices, Shop Drawings, Field Orders, Change Orders, Cost Breakdowns, Periodical Payment Requests, etc.
8. Owner - The Owner or designee

PART 2—INTENT

- A. It is the intention of these specifications and all associated drawings to call for finished work, tested, and ready for operation. Wherever the word "provide" is used, it shall mean "furnish and install complete and ready for use."
- B. Minor details not usually shown or specified, but necessary for the proper installation and operation, shall be included in the work, the same as if herein specified or shown.

PART 3—ELECTRICAL DRAWINGS AND SPECIFICATIONS

- A. The drawings are diagrammatic only and indicate the general arrangement of the systems and are to be followed insofar as possible. If deviations from the layouts are necessitated by field conditions, detailed layouts of the proposed departures shall be submitted to the Engineer for approval before proceeding with the work. The drawings are not intended to show every vertical or horizontal offset which may be necessary to complete the systems. Contractors shall anticipate that additional offsets may be required and submit their bid accordingly.
- B. The drawings and specifications are intended to supplement each other. No Contractor or supplier shall take advantage of conflict between them, or between parts of either. Should this condition exist, the Contractor or supplier shall request a clarification not less than forty-eight (48) hours prior to the submission of bids so that the condition may be clarified by Addendum. In the event that such a condition arises after work is started, the interpretation of the Engineer shall be final.
- C. The drawings and specifications shall be considered to be cooperative and anything appearing in the specifications which may not be indicated on the drawings, or vice

- versa, shall be considered as part of the Contract and must be executed the same as though indicated by both.
- D. Each Contractor shall make all his or her own measurements in the field and shall be responsible for correct fitting. The Contractor shall coordinate this work with all other branches of work in such a manner as to cause a minimum of conflict or delay.
  - E. The Engineer shall reserve the right to make adjustments in location of conduit, poles, fixtures, panels, switches, etc., where such adjustments are in the interest of improving the project. Where the location of Electrical equipment may interfere with ceiling heights, the Electrical Contractor shall call this to the attention of the Engineer in writing prior to making the installation. Any such changes shall be anticipated and requested sufficiently in advance so as to not cause extra work on the part of the Contractor or unduly delay the work.
  - F. Should conflict or overlap (duplication) of work between the various trades become evident, this shall be called to the attention of the Engineer. In such event no Contractor shall assume that he or she is to be relieved of the work which is specified under his branch until instructions in writing are received from the Engineer.
  - G. The Electrical drawings are intended to show the approximate location of equipment, materials, etc. Unless dimensioned, the electrical drawings only indicate approximate locations of equipment, materials, etc. Dimensions given in figures on the drawings shall take precedence over scaled dimensions and all dimensions, whether given in figures or scaled, shall be verified in the field to ensure no conflict with other work. In case of conflict between small and large scale drawings, the larger scale drawings shall take precedence.
  - H. Each Proposer shall review all other drawings in detail as they may relate to his or her work. Review all drawings for general coordination of work, responsibilities, clearances, wall penetration points, chase access, fixture elevations, etc. Make any pertinent comments to the Engineer at least forty-eight (48) hours prior to bids.
  - I. Where on any of the drawings a portion of the work is drawn out and the remainder is indicated in outline, or not indicated at all, the parts drawn out shall apply to all other like portions of the work. Where ornament or other detail is indicated by starting only, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to all other similar parts of the work, unless otherwise indicated.

#### PART 4—EXAMINATION OF SITE AND CONDITIONS

- A. Each Electrical Contractor shall inform him- or herself of all of the conditions under which the work is to be performed, the site of the work, the structure of the ground, the obstacles that may be encountered, the availability and location of necessary facilities and all relevant matters concerning the work. All Contractors shall carefully examine all Drawings and Specifications and inform themselves of the kind and type of materials to be used throughout the project and which may, in any way, affect the execution of the work. Each Electrical Contractor shall fully acquaint him- or herself with all existing conditions as to ingress and egress, distance of haul from supply points, routes for transportation of materials, facilities and services, availability of utilities, etc. Work shall cover all expenses or disbursements in connection with such matters and conditions. Each Electrical Contractor shall verify all work shown on the

drawings and conditions at the site, and shall report immediately to the Engineer, forty-eight (48) hours prior to bidding, any discrepancies which may appear in order that misunderstanding at a later date may be prevented. No allowance is to be made for lack of knowledge concerning such conditions after bids are accepted.

#### PART 5—EQUIPMENT AND MATERIALS SUBSTITUTIONS

- A. When any Electrical Contractor requests approval of substitute materials and/or equipment, and when under formal alternate proposal, it shall be understood and agreed that such substitution, if approved, will be made without additional cost regardless of changes in connections, spacing, service, mounting, etc. In all cases where substitutions affect other trades, the Electrical Contractor shall reimburse them for all necessary changes in their work. Any drawings, specifications, diagrams, etc., required to describe and co-ordinate such substitutions or deviations shall be professionally prepared at the responsible Contractor's expense. Special Note: Approval of Shop Drawings by the Engineer does not absolve the Electrical Contractor of this responsibility.
- B. Notwithstanding any reference in the specifications to any article, device, product, material, fixture, form, or type of construction by name, make, or catalog number, such reference shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition; and each Electrical Contractor, in such cases, may, at his or her option, use any article, device, product, material, fixture, form, or type of construction which in the judgment of the Engineer is equivalent to that specified, provided the provisions of paragraph (A) immediately preceding are met. Substitutions shall be submitted to the Engineer a minimum of forty-eight (48) hours prior to bids.
- C. Wherever any equipment and material is specified exclusively, only such items shall be used unless substitution is accepted in writing to the Engineer.
- D. Each Electrical Contractor shall furnish along with his or her proposal a list of specified equipment and materials which he or she proposes to provide. Where several makes are mentioned in the Specifications and the Contractor fails to state which will be furnished, the Engineer shall have the right to choose any of the makes mentioned without change in price.

#### PART 6—SUPERVISION OF WORK

- A. Each Electrical Contractor and Electrical Sub-Contractor shall personally supervise the work or have a competent superintendent, satisfactory to the Engineer, on the work at all times during progress with full authority to act for the Electrical Contractor or the Sub-contractor.

#### PART 7—CODES, RULES, PERMITS, FEES, INSPECTIONS, REGULATIONS, ETC.

- A. The Electrical Contractor shall give all necessary notices, obtain and pay for all permits, government sales taxes, fees, STATE ELECTRICAL INSPECTIONS, inspections, and other costs including utility connections or extensions, in connection

- with the work; file all necessary plans, prepare all documents and obtain all necessary approvals of all governmental departments having jurisdiction; obtain all required certificates of inspection for the work and deliver same to the Owner before request for acceptance and final payment for the work. Ignorance of Codes, Rules, regulations, laws, etc., shall not excuse the Electrical Contractor from compliance.
- B. The Electrical Contractor shall include in the work, without extra cost to the Owner, any labor, materials, services, apparatus or drawings required in order to comply with all applicable laws, ordinances, rules and regulations, whether or not shown on drawings and/or specified.
  - C. All materials furnished and all work installed shall comply with the current Edition of the National Electrical Codes, National Fire Codes of the National Fire Protection Association, the requirements of local utility companies, and with the requirements of all governmental departments having jurisdiction.
  - D. All material and equipment for the electrical systems shall bear the approval label, or shall be listed by the Underwriters' Laboratories, Incorporated.
  - E. All electrical work is to be constructed and installed in accordance with plans and specifications which have been approved in their entirety and/or reflect any changes requested by the State Fire Marshall. Electrical work shall not commence until such plans are in the hands of the Electrical Contractor.
  - F. The Electrical Contractor shall furnish three (3) copies of all Final Inspection Certificates obtained to the Engineer when work is complete. Final payment for work will be contingent upon compliance with this requirement.
  - G. The Electrical Contractor shall ensure that the work is accomplished in accord with OSHA Standards.
  - H. Where conflict arises between any code and the plans and/or specifications, the code shall apply except in the instance where the plans and specifications exceed the requirements of the code. Any changes required as a result of these conflicts shall be brought to the attention of the Engineer at least forty-eight (48) hours prior to bid date, otherwise the Contractor shall make the required changes at his or her own expense. The provisions of the codes constitute minimum standards for wiring methods, materials, equipment and construction and compliance therewith will be required for all electrical work, except where the drawings and specifications require better materials, equipment, and construction than these minimum standards, in which case the drawings and specifications shall be the minimum standards.

#### PART 8 — COST BREAKDOWNS

- A. Within ten (10) days after acceptance of the Contract, the Contractor shall be required to furnish to the Engineer, one (1) copy of a detailed cost break-down on each respective area of work. These cost breakdowns shall be made on forms provided or approved by the Owner. Payments will not be made until satisfactory cost breakdowns are submitted.

## PART 9—GUARANTEES AND WARRANTIES

- A. Each Electrical Contractor shall guarantee all equipment, apparatus, materials, and workmanship entering into this contract to be the best of its respective kind and shall replace all parts at his or her own expense which are proven defective within one (1) year from final acceptance of the work. The effective date of completion of the work shall be the date of the Certificate of Substantial Completion. Items of equipment which have longer guarantees, as called for in these specifications, shall have warranties and guarantees completed in order, and shall be in effect at the time of final acceptance of the work by the Engineer. The Contractor shall present the Owner with such warranties and guarantees at the time of final acceptance of the work. The Owner reserves the right to use equipment installed by the Contractor prior to date of final acceptance. Such use of equipment shall in no way invalidate the guarantee except that Owner shall be liable for any damage to equipment during this period due to negligence of the operator or other employee.

## PART 10—INSPECTION, APPROVALS AND TESTS

- A. Before requesting a final inspection by the Engineer, each Electrical Contractor shall thoroughly inspect his installation to assure that the work is complete in every detail and that all requirements of the Contract Documents have been fulfilled. Failure to accomplish this portion of the Contract may result in charges from the Engineer and Owner for unnecessary and undue work on their part.
- B. Each Electrical Contractor shall provide as a part of this contract electrical inspections by the State Electrical Inspector.
- C. Each Electrical Contractor shall advise the State Electrical Inspector in writing with an information copy of the correspondence to the Owner when he or she anticipates commencing work. Failure to inspect the work in the stage following and submit the related reports may result in the Contractor's having to expose concealed work not so inspected. Such exposure will be at the expense of the responsible Electrical Contractor.
- D. An inspection shall be scheduled for rough as well as finished work. The rough inspection shall be divided into as many inspections as may become necessary to cover all roughing-in without fail and a report of each such inspection visit shall be submitted to the Engineer and the Contractor within three (3) days of the inspection.
- E. Approval by the Electrical Inspector does not relieve the Contractor from the responsibilities of furnishing equipment having a quality of performance equivalent to the requirements set forth in these plans and specifications. All work under this contract is subject to the inspection and approval of the Engineer, whose decision is binding.
- F. Before final acceptance, the Contractor shall furnish three (3) copies of the certificates of final approval by the Electrical Inspector to the Engineer and one (1) copy to the State Fire Marshal's Office.
- G. All costs incidental to electrical inspections shall be borne by the Electrical Contractor.

- H. Each Electrical Contractor shall test all wiring and connections for continuity and grounds before equipment and fixtures are connected, and when indicated or required, demonstrate by Megger Test the insulation resistance of any circuit or group of circuits. Where such tests indicate the possibility of faulty insulation, locate the point of such fault, pull out the conductor at fault, replace same with new and demonstrate by further test the elimination of such fault. Check direction of all motors and correct if required.

#### PART 11—CHANGES IN ELECTRICAL WORK

Refer to General and Special Conditions

#### PART 12—CLAIMS FOR EXTRA COST

Refer to General and Special Conditions

#### PART 13—SURVEYS, MEASUREMENTS AND GRADES

- A. Each Electrical Contractor shall lay out all work and be responsible for all necessary lines, levels, elevations and measurements. The Electrical Contractor must verify the figures shown on the drawings before laying out the work and will be held responsible for any error resulting from failure to do so.
- B. Each Electrical Contractor shall base all measurements, both horizontal and vertical, from established bench marks. All work shall agree with these established lines and levels. Verify all measurements at the site and check their correctness as related to the work.
- C. Should any Electrical Contractor discover any discrepancy between actual measurements and those indicated, which prevents following good practice of the intent of the drawings and specifications, he or she shall notify the Engineer, through the General Contractor, and shall not proceed with work until receiving instructions from the Owner.

#### PART 14—TEMPORARY USE OF EQUIPMENT

- A. The permanent electrical equipment, when installed, may be used for temporary services, subject to an agreement between the Contractors involved, the General Contractor, and with the consent of the Owner. Should the permanent systems be used for this purpose, these Contractors shall pay for all temporary connections required and any replacements required due to damage, without cost, leaving the same in "as new" condition.
- B. Permission to use the permanent equipment does not relieve the Contractors who utilize this equipment from the responsibility for any damages to the building construction and/or equipment which might result because of its use.



## PART 15—TEMPORARY SERVICES

- A. Each Electrical Contractor shall arrange with the General Contractor the temporary electrical and other services which may be required to accomplish the work.

## PART 16—AS-BUILT DRAWINGS

- A. Each Electrical Contractor shall ensure that any deviations from the design are being recorded on the as-built drawings (3 sets) being maintained by the General Contractor. The Owner shall review the as-built documents from time to time to ensure compliance with this specification. Compliance shall be a contingency of final payment. Pay particular attention to the location of underground, main switches and other appurtenances important to the maintenance and safety of the electrical system.

## PART 17—MATERIALS AND WORKMANSHIP

- A. All electrical equipment, materials and articles incorporated in the work shall be new and of comparable quality to that specified. All workmanship shall be first-class and shall be performed by electricians skilled and regularly employed in their respective trades. Each Electrical Contractor shall determine that the equipment proposed to be furnished can be brought into the building and installed within the space available. All equipment shall be installed, so that all parts are readily accessible for inspection, maintenance, replacement, etc. Extra compensation will not be allowed for relocation of equipment for accessibility or for dismantling equipment to obtain entrance into the building.
- B. All conduit and/or conductors shall be concealed in walls, ceilings or floors unless otherwise noted. All fixtures and wiring covered in this section shall be installed to make up complete systems as indicated on the drawings and specified herein.
- C. All materials, where applicable, shall bear the Underwriters' Laboratories label where such a standard has been established.
- D. Each length of conduit, wire way, duct, conductor, cable, fitting, fixture and device used in the electrical systems shall be stamped or indelibly marked with the maker's mark or name.
- E. All electrical equipment shall bear the manufacturer's name and address and shall indicate its electrical capacity and characteristics.
- F. All electrical materials, equipment and appliances shall conform to the latest standards of the National Electric Manufacturers Association (NEMA) and the National Board of Fire Underwriters (NBFU) and shall be approved by the Owner's insuring agency if so required.

## PART 18—QUALIFICATIONS OF WORKERS

- A. All electrical work shall be accomplished by qualified workers competent in the area of work for which they are responsible. Untrained and incompetent workers as evidenced by their workmanship shall be relieved of their responsibilities in areas of incompetence. The Owner shall reserve the right to determine the quality of

workmanship of any worker and unqualified or incompetent workers shall refrain from work in areas not satisfactory to the Owner. Requests for relief of a worker shall be made through the normal channels of Owner—General Contractor—Electrical Contractor, etc.

- B. All electrical work shall be accomplished by Electricians under the direct supervision of a Kentucky licensed Master Electrician.

#### PART 19—CONDUCT OF WORKERS

- A. Each Electrical Contractor shall be responsible for the conduct of all workers under his or her supervision. Misconduct on the part of any worker to the extent of creating a safety hazard, or endangering the lives and property of others, shall result in the prompt relief of that worker. The consumption of alcoholic beverages on the job site is strictly forbidden.

#### PART 20—COOPERATION AND COORDINATION BETWEEN TRADES

- A. Each Electrical Contractor is expressly directed to read the General Conditions and all detailed sections of these specifications for all other trades and to study all drawings applicable to the work, to the end that complete coordination between trades will be effected. Each Electrical Contractor shall make known to all other affected trades the intended positioning of materials and equipment and intended order of work. Coordinate all work with that of other trades and proceed with the installation in such a manner as to assure no delays to other trades. Similarly, determine the intended locations and sizes of equipment, roughing-in requirements and equipment which is to be provided by others, but is to be connected by each Electrical Contractor. Failure of the responsible Electrical Contractor to make known any needs and to determine the requirements of others will not be cause for additional compensation to correct interferences which could have been avoided by proper coordination.
- B. Each Electrical Contractor shall be responsible for coordination with the General Contractor to ensure that necessary provisions for connections, operational switches, disconnect switches, fused disconnects, etc. for electrically operated equipment provided under other divisions of the specifications, or called for on the plans, are made.
- C. If any discrepancies occur between accompanying drawings and these specifications and drawings and specifications covering other Contracts, each trade shall report such discrepancies to the Engineer far enough in advance so that a workable solution can be presented. No extra payment will be allowed for relocation of conduit, conductors, equipment, etc., not installed in accordance with the above instructions, and which interferes with work and equipment of other trades.

#### PART 21—PROTECTION OF EQUIPMENT

- A. Each Electrical Contractor shall be entirely responsible for all material and equipment furnished by him or her in connection with the work and special care shall be taken to

properly protect all parts thereof from damage during the construction period. Such protection shall be by a means acceptable to the Engineer. All rough-in conduit shall be properly plugged or capped during construction in a manner approved by the Engineer. Equipment damaged while stored on site either before or after installation shall be repaired by the responsible Contractor.

#### PART 22—CONCRETE WORK

- A. Each Electrical Contractor shall be finally responsible for the provision of all concrete work required for the installation of any systems or equipment. Optionally, arrangements may be made with the General Contractor to provide this work. This option, however, will not relieve the Electrical Contractor of responsibilities relative to dimensions, quality of workmanship, locations, etc. In the absence of other concrete specifications, all concrete related to Electrical work shall be 3000 PSI minimum compression strength at 28 days curing and shall conform to the standards of the American Concrete Institute Publication ACI-318. Heavy equipment shall not be set on pads for at least seven (7) days after pour.

#### PART 23—RESTORATION OF NEW OR EXISTING SHRUBS, PAVING, ETC.

- A. Each Electrical Contractor shall restore to their original conditions all paving, curbing surfaces, drainage ditches, structures, fences, shrubs, existing or new building surfaces and appurtenances, and any other items damaged or removed by his or her operations. Replacement and repairs shall be in accordance with good construction practice and shall match materials employed in the original construction of the item to be replaced and shall be to the satisfaction of the Owner.

#### PART 24—MAINTENANCE OF EXISTING UTILITIES AND LINES

- A. The locations of all piping, conduits, cables, utilities and manholes, existing or otherwise, that come within the contract construction site, shall be subject to continuous uninterrupted maintenance with no exception unless the Owner of the utilities grants permission to interrupt same temporarily, if need be.
- B. These utilities and lines are mainly shown on the drawings. However, it is additionally required that, prior to any excavation being performed, each Contractor ascertain that no utilities or lines are endangered by the excavation.
- C. If the above mentioned utilities or lines are located underground within the construction site, the Contractor shall first probe and make every effort to locate the lines prior to excavation in the respective area.
- D. Cutting into existing utilities and services shall be done in coordination with and as designated by the Owner of the Utility.
- E. Each Electrical Contractor shall repair to the satisfaction of the Engineer any surface or subsurface improvements damaged during the course of the work, unless such improvement is shown to be abandoned or removed.
- F. Machine excavation shall not be permitted within ten (10) feet of existing (or new) gas or fuel lines. Hand excavate only.

- G. Protect all new or existing lines from damage by traffic, etc. during construction.

#### PART 25—FINAL CONNECTIONS TO EQUIPMENT

- A. The roughing-in and final connections to all electrically operated equipment furnished under this and all other sections of these specifications, or by others, shall be included in the Contract and consists of furnishing all labor and materials for connection.

#### PART 26—ACCESSIBILITY

- A. The Contractor shall locate and install all equipment so that it may be serviced, operated, or maintained in fully accessible positions. Equipment shall include but not be limited to controllers, switch gears, etc. Minor deviations from drawings may be made to allow for better accessibility, and any change shall be approved where the equipment is concealed.

#### PART 27—CUTTING AND PATCHING

- A. Unless otherwise indicated or specified, each Electrical Contractor shall provide his or her own cutting and patching necessary to install the work specified in this Division. Patching shall match adjacent surfaces to the satisfaction of the Owner.
- B. No structural members shall be cut without the approval of the Engineer and all such cutting shall be done in a manner directed by Engineer.

#### PART 28—WEATHERPROOFING

- A. Where any work pierces waterproofing, including waterproof concrete, the method of installation shall be as approved by the Engineer before work is done. The Electrical Contractor shall furnish all necessary sleeves, caulking and flashing required to make openings absolutely watertight.

#### PART 29—OPERATING INSTRUCTIONS

- A. Upon completion of all work and all tests, each Electrical Contractor shall furnish the necessary skilled labor and helpers for operating the systems and equipment. During this period, instruct the Owner or representative fully in the operations, adjustment, and maintenance of all equipment furnished. Give a least forty-eight (48) hours' notice to the Owner in advance of this period.
- B. Each Electrical Contractor shall furnish to the General Contractor four (4) complete bound sets for delivery to the Owner of typewritten and/or blueprinted instructions for operating and maintaining all systems and equipment included in this contract. All instructions shall be submitted in draft, for approval, prior to final issue. Manufacturer's advertising literature or catalogs will not be acceptable for operating and maintenance instructions.
- C. Each Electrical Contractor, in the above mentioned instructions, shall include the maintenance schedule for the principal items of equipment furnished under this

contract and a detailed, easy to read parts list and the name and address of the nearest source of supply.

#### PART 30—SCAFFOLDING, RIGGING AND HOISTING

- A. Each Contractor shall furnish all scaffolding, rigging, cranes, hoisting and services necessary for erection and delivery onto the premises of any equipment and apparatus furnished. All such temporary appurtenances shall be set up in strict accord with OSHA Standards and Requirements. Remove same from premises when no longer required.

#### PART 31—CLEANING

- A. Each Contractor shall, at all times, keep the area of work presentable to the public and clean of rubbish and debris caused by operations; and at the completion of the work, shall remove all rubbish, debris, all tools, equipment, temporary work and surplus materials from and about the premises, and shall leave the area clean and ready for use. If the Contractor does not attend to such cleaning upon request, the Engineer may cause cleaning to be done by others and charge the cost of same to the responsible Contractor. Each Contractor shall be responsible for all damage from fire which originates in, or is propagated by, accumulations of rubbish or debris.
- B. After completion of all work and before final acceptance of the work, each Contractor shall thoroughly clean all equipment and materials and shall remove all foreign matter such as grease, dirt, plaster, labels, stickers, etc. from the exterior of piping, equipment, fixtures and all other associated or adjacent fabrication.

#### PART 32—PAINTING

- A. In general, all finish painting shall be accomplished by the General Contractor. If in doubt, contact the Owner.

#### SECTION 16B—SCOPE OF THE ELECTRICAL WORK

Part 1—General

Part 2—Scope of the Electrical Work

#### PART 1—GENERAL

- A. Each Electrical Contractor's attention is directed to Section 16A—General Provisions, and all other Contract Documents as they apply to the work.

#### PART 2—SCOPE OF THE ELECTRICAL WORK

- A. The Electrical work for this project includes all labor, materials, equipment, fixtures, backfill and related items required to completely install, test, place in service and deliver to the Owner complete electrical systems in accordance with the

accompanying plans and all provisions of these specifications This work shall primarily include, but is not limited to, the following:

1. All conduits, conductors, outlet boxes, fittings, etc.
2. All switch gear panels, disconnect switches, fuses, transformers, contactors, starters, etc.
3. All wiring devices and device plates.
4. All light fixtures and lamps.
5. Electrical connection to all electrically operated equipment.
6. Inspection of electrical system by the State Electrical Inspector.
7. Grounding.
8. All necessary fees and costs for permits, inspections, work by utility companies, etc.
9. Indication of circuit use on panel board directory, where power is obtained.

#### SECTION 16C—REQUIRED SHOP DRAWINGS, DESCRIPTIVE LITERATURE, MAINTENANCE MANUALS, PARTS LIST, SPECIAL WRENCHES, TOOLS AND KEYS

Part 1—Shop Drawings

Part 2—Special Wrenches, Tools and Keys

Part 3—Maintenance and Operation Manuals

#### PART 1—SHOP DRAWINGS

- A. Each Electrical Contractor shall submit to the Engineer, within ten (10) days after the date of the Contract, three (3) sets of shop drawings and/or manufacturer's descriptive literature on all equipment required for the fulfillment of the contract. Each shop drawing and/or manufacturer's descriptive literature shall have proper notation indicated on it and shall be clearly referenced as to specifications, schedules, light fixture numbers, panel numbers, etc., so that the Engineer may readily determine the particular item the Contractor proposes to furnish. All data and information scheduled, noted, or specified shall be noted in red on the submittals. The Contractor shall make any corrections or changes required and shall resubmit for final approval as outlined above. Approval of such drawings, descriptive literature and/or schedules shall not relieve the Contractor from responsibility of deviation from drawings or specifications unless they have, in writing, directed the Engineer's attention to such deviations at the time of submission of drawings, descriptive literature and schedules; nor shall it relieve them from responsibility for errors of any nature in shop drawings, descriptive literature and schedules. The term "as specified" will not be accepted.
- B. If the Contractor fails to comply with the requirements set forth above, the Engineer shall have the option of selecting any or all items listed in the specifications or on the drawings; and the Contractor will be required to furnish all materials in accordance with this list.
- C. It shall be noted that approval of shop drawings by the Engineer applies only to conformance with the design concept of the project and general compliance with the information given in the contract documents. In all cases, the installing Contractor

alone shall be responsible for furnishing the proper quantity of equipment and/or materials required, for seeing that all equipment fits the available space in a satisfactory manner and that piping, electrical and all other connections are suitably located.

- D. The Engineer's review and approval of shop drawings, schedules or other required submittal data shall not relieve the Contractor from responsibility for: the adaptability of the equipment or materials to the project; compliance with applicable codes, rules, regulations; information that pertains to fabrication and installation; dimensions and quantities; electrical characteristics; and coordination of the work with all other trades involved in this project. Neither shall it relieve the Contractor from responsibility for error in shop drawings or schedules.
- E. No final rough-in, connections, etc. shall be accomplished until approved equipment shop drawings are in the hands of the Contractors concerned. It shall be each Contractor's responsibility to obtain approved shop drawings and to make all connections, etc. in the neatest and most workmanlike manner possible. Each Contractor shall coordinate with all the other Contractors having any connections, roughing-in, etc. to the equipment.
- F. In accord with the provisions specified hereinbefore, shop drawings, descriptive literature and schedules shall be submitted on each of the following:
  - 1. Light Fixtures
  - 2. Panelboards
  - 3. Disconnects
  - 4. Conduit
  - 5. Conductors
  - 6. Ground Rods
  - 7. Pull Boxes

## PART 2—SPECIAL WRENCHES, TOOLS AND KEYS

- A. Each Electrical Contractor shall provide, along with the equipment provided, any special wrenches or tools necessary to dismantle or service equipment or appliances installed by him or her. Wrenches shall include necessary keys, handles and operators for valves, cocks, etc. and keys to electrical panels, emergency generators, the alarm pull boxes and panels, etc. At least one of any such special wrench keys, etc. shall be turned over to the Owner prior to completion of the project.

## PART 3—MAINTENANCE AND OPERATION MANUALS

- A. Upon substantial completion of the project, the Electrical Contractor shall deliver to the Engineer (in addition to the required Shop Drawings) three (3) complete copies of operation and maintenance instructions and parts lists for all equipment provided. These documents shall at least include:
  - 1. Detailed operating instructions.
  - 2. Detailed maintenance instructions including preventive maintenance schedules.
  - 3. Addresses and phone numbers indicating where parts may be purchased.
  - 4. As-Built Drawings.

## SECTION 16D—CUTTING, PATCHING AND REPAIRING

### PART 1—GENERAL

- A. Each Electrical Contractor shall cut holes in casework, equipment panels, etc. (if any), as required to pass pipes in and out.
- B. Openings in slabs and walls shall be cut with core drill. Hammer devices will not be permitted. Edges of trenches and large openings shall be scribe cut with a masonry saw.
- C. No cutting is to be done at points or in a manner that will weaken the structure and unnecessary cutting must be avoided. If in doubt, contact the Owner.
- D. Each Electrical Contractor shall be responsible for properly shoring, bracing, supporting, etc., any existing and/or new construction to guard against cracking, settling, collapsing, displacing or weakening while openings are being made. Any damage occurring to the existing and/or new structures, due to failure to exercise proper precautions or due to action of the elements, shall be promptly and properly made good to the satisfaction of the Engineer.
- E. All work improperly done or not done at all as required by the Electrical trades in this section will be performed by the General Contractor at the direction of the Contractor whose work is affected. The cost of this work shall be paid for by the Contractor responsible.

## SECTION 16E—EXCAVATION, TRENCHING, BACKFILLING AND GRADING

- Part 1—General
- Part 2—Subsurface Data
- Part 3—Bench Marks and Monuments
- Part 4—Excavation
- Part 5—Backfill

### PART 1—GENERAL

- A. Each Electrical Contractor's attention is directed to Section 16A—General Provisions, and all other contract documents as they may apply to the work.
- B. Each Electrical Contractor shall include all excavating, filling, grading and related items required to complete the work as shown on the drawings and specified herein.
- C. Electrical distribution lines shall, in no case, be placed in the same trench with sanitary storm, domestic or fire protection water lines.
- D. Depths of bury shall be as indicated on the drawings.

### PART 2—SUBSURFACE DATA

- A. Materials to be excavated including drilled holes for lighting poles shall be unclassified, and shall include earth, rock, or any other material encountered in the excavation to the depth and extent indicated on the drawings and specified herein. No adjustment in the Contract sum will be made on account of the presence or absence of rock, shale, or other materials encountered in the excavating.



### PART 3—BENCH MARKS AND MONUMENTS

- A. Maintain carefully all bench marks, monuments and other referenced points. If disturbed or destroyed, replace as directed.

### PART 4—EXCAVATION

- A. Each Electrical Contractor shall accept the site as found and remove all trash, rubbish and material from the site prior to starting excavation.
- B. Excavate trenches to sufficient width and depth for proper installation of the work and where required, smooth the bottom on the trench with hand tools.
- C. The removal of rock shall be accomplished by use of hand or power tools only. Blasting shall not be permitted unless authorized in writing by the Engineer. Any damage to existing structures, exterior services or rock intended for bearing, shall be corrected at the responsible Contractor's expense.
- D. Keep trenches free from water while construction therein is in progress. Under no circumstances lay conduit or cable in water. Pumping or bailing water from this Contractor's trenches, which is required during construction shall be accomplished at the Contractor's expense.
- E. In no case shall excavation be accomplished that will damage in any way the new structure, existing structures, equipment, etc. Each Contractor shall take the necessary steps to prevent flow of eroded earth by water or landslide onto the property of others, or against the structures. The cost of excavation, and any damages, shall be borne by the responsible Contractor.

### PART 5—BACKFILL

- A. Backfill shall be accomplished with clean, debris-free earth and the new earth tamped at 12" intervals so as to avoid earth sinks along the trench. The responsible Contractor will be required to return to the project and fill any sunken areas along the route of the work.
- B. Backfill trenches only after conduit and cable have been inspected, tested, and locations of pipe lines have been recorded on "as-built" drawings.
- C. The backfill below paved areas shall be brought to proper grade to receive the sub-base and paving. No paving shall be placed on uncompacted fill.
- D. The backfill below sodded or seeded areas shall be brought to within six inches of finished grade. The remaining six inches shall be backfilled with clean soil.

### SECTION 16F—GROUNDING

- Part 1—General
- Part 2—Materials
- Part 3—Installation

## PART 1—GENERAL

- A. All metallic conduit, wire ways, supports, cabinets and equipment shall be grounded in accordance with the latest issue of the National Electrical Code and as shown on the Contract Drawings.
- B. The size of the grounding conductor for service equipment shall be not less than that given in Article Nos. 250-91 through 250-95 of the National Electrical Code, and/or as shown on the Contract Drawings.
- C. Grounding buss and non-current carrying metallic part of all equipment and conduits shall be securely grounded by connection to common ground.

## PART 2—MATERIALS

- A. Ground wires and cables shall be of the AWG sizes shown on the Contract Drawings. All ground wires and cables shall be copper.
- B. All grounding fittings shall be heavy cast bronze or copper of the mechanical type.

## PART 3—INSTALLATION

- A. All grounding conductors shall be protected from mechanical injury and shall be rigidly supported. If ground conductors are run through conduit, they shall be securely bonded to such conduit at the entrance and exit. All connection of equipment shall be made with an approved type of solderless connection and same shall be bolted or clamped to equipment or conduit.
- B. All equipment grounding conductors to equipment not exceeding No. 10 AWG in size shall be green colored type "THW" or "THHN".
- C. Bonding terminals and connectors for grounding shall be of the thermal welded type or mechanical type, as required.
- D. Resistance to the grounding at the service entrance equipment shall be in accordance with the N.E.C.
- E. All circuits shall have a separate grounding conductor.

## SECTION 16G—RACEWAYS & FITTINGS

- Part 1—General
- Part 2—Materials
- Part 3—Supports and Hangers
- Part 4—Insulated and Insulating Bushings
- Part 5—Installation
- Part 6—Specialties

## PART 1—GENERAL

- A. This section covers the conduit, conduit fittings, junction boxes, splice boxes and related items necessary to complete the work as shown on the drawings and specified herein.

## PART 2—MATERIALS

- A. All conduit for installation underground shall be Schedule 80 PVC.
- B. Thin wall (EMT) conduit may be used in areas other than those above except where exposed to injury, in which case rigid heavy wall shall be used.
- C. Flexible conduit shall be used where permitted by NEC. Conduit shall be installed with connectors designed for the purpose. All flexible conduit shall be single piece. No joints shall be installed. Flexible conduit shall not be used in wet or dusty locations or where subject to oil, water or other damaging environments.
- D. Weatherproof flexible conduit shall be single strip neoprene covered equivalent to "Liquatite" or "Sealtite" Type "UA". Flexible conduit shall be installed in such a manner that it will not tend to pull away from the connectors. Flexible connections to motors in dusty areas shall be dust tight and in areas exposed to the weather shall be weatherproof.
- E. Rigid, thin wall (EMT) and flexible conduit shall conform to the Underwriters Laboratory, Inc. (UL) and the National Electrical Code (NEC).
- F. Conduit fittings and junction boxes and fittings shall be dust tight and threaded for dusty areas, weatherproof for exterior, and vapor tight for moist areas. Conduit fittings shall be as manufactured by Crouse Hinds, Appleton, Pyle National or Killark, or approved equal.
- G. All surface mounted round base conduit fittings shall be provided with mounting hubs.
- H. Fittings for this wall (EMT) conduit shall be mechanical compression, waterproof type only. Set screw fittings shall not be acceptable.

## PART 3—SUPPORTS AND HANGERS

- A. All conduit supports shall be two (2) hole metal straps.

## PART 4—INSULATED AND INSULATING BUSHINGS

- A. Shall be as manufactured by O.Z. Co., Appleton, Efcor, T & B or approved equal.

## PART 5—INSTALLATION

- A. This Contractor shall lay out and install all conduit systems so as to avoid any other service or systems, the proximity of which may prove injurious to the conduit or conductors which it confines. All conduit systems, except those otherwise specifically shown to the contrary, shall be underground or concealed in the building construction or run above ceilings. Size of all conduit shall conform to Table No. 1, Chapter 9, of the National Electrical Code, unless otherwise shown on the Contract Drawings. No conduit shall be installed in poured concrete slabs. All this shall be held below slab. Conduit shall be kept at least 6" from flues or hot water pipes. All exposed conduit shall be installed with runs parallel or perpendicular to walls, structural members or intersections of vertical planes and ceilings, with right angle turns consisting of cast

metal fittings or symmetrical bends unless otherwise shown. All conduit shall have supports spaced not more than 8' apart using 2-hole metal straps. Conduit shall be installed in such a manner so as to ensure against trouble from the collection of trapped condensation and all runs of conduit shall be arranged so as to be devoid of traps. Trapped conduit runs shall be provided with explosion proof drains at low points. Runs of conduit shall not have more than three 90° bends. Junction boxes shall be installed so that conduit runs will not exceed 85' or as shown on the Contract Drawings.

- B. Underground electric service rigid steel conduit and underfloor rigid steel conduit below the concrete floor slab shall be painted with two coats of asphaltic paint.
- C. All underground or underfloor conduits shall be swabbed free of all moisture and debris before conductors are pulled.
- D. All conduits, unless otherwise indicated, shall be 3/4" minimum for interior and 1" minimum for underground exterior.

#### PART 6—SPECIALTIES

- A. All EMT terminations at junction boxes, panels, etc., shall be made with locknuts, case hardened, and appropriate fittings with insulated liners. Connector and couplings shall be mechanical pressure type. All rigid conduit shall have double locknuts.
- B. All rigid conduit, except main and branch feeders, shall have heavy fiber insulating bushings reinforced with double locknuts. All branch and main feeders shall have insulated bushings with grounding lugs and bonded to enclosures with #8 copper jumpers, except at pad mounted transformers.
- C. All feeder and branch circuits where they cross an expansion joint in the building construction shall be fitted with expansion fittings.
- D. All conduit stubbed through floor during construction shall have openings protected with plastic caps approved for this purpose. Connections on both ends of all flexible conduit shall be equivalent to Thomas and Betts, Appleton, Efcor, Steel City or approved equal.

#### SECTION 16H—CONDUCTORS, IDENTIFICATION, SPLICING DEVICES & CONNECTORS

- Part 1—General
- Part 2—Materials
- Part 3—Installation

#### PART 1—GENERAL

- A. This section of the Specifications covers all of the electrical power, lighting, and control power (line voltage) conductors.

#### PART 2—MATERIALS

- A. Conductors:

1. All conductors shall be 98% conductive annealed copper unless otherwise noted.
  2. Lighting and receptacle branch circuits shall be not less than No. 12 copper wire or of the sizes shown on the drawings with Type THW or THHN insulation. All feeder circuits shall be Type THW of the size as shown on the Contract Drawings.
  3. Conductors No. 10 and smaller sizes of wire shall be solid. Conductors No. 8 and larger sizes shall be stranded.
  4. All wire on the project shall be new, in good condition, and shall be delivered in standard coils or reels.
  5. The color of the wire shall be selected to conform with Section 210-5 of the latest edition of the National Electrical Code, or as specified herein.
  6. All equipment grounding conductors shall have green color insulation.
  7. Conductors for main ground from neutral buss, equipment grounding buss, grounding grid and main cold water pipe connection shall be bare copper.
  8. All conductors shall be identified by color code and by means of labels placed on conductors in junction boxes and at terminal points with Brady, Gardner, T & B, Burndy or approved equal, labels indicating source, circuit No. or terminal No.
- B. Splicing Devices & Connectors:
1. Splicing devices for use on No. 14 to No. 10 AWG conductors shall be pressure type such as T & B "Sta-Kon", Burndy, Reliable, T & B or approved equal.
  2. Terminating pressure applied ring type terminations shall be employed on motor and equipment terminals where such terminals are provided on motor and equipment leads.
  3. The use of split-bolt clamps will not be permitted.
  4. Large connectors (lugs) shall be mechanical type.

### PART 3—INSTALLATION

- A. The pulling of all wires and cable on this project shall be performed in strict compliance with applicable sections of the National Electrical Code. No conductor entering or leaving a cabinet or box shall be deflected in such a manner as to cause excessive pressure on the conductor insulation and after all insulation and insulating bushings are in place.
- B. The radius of bending of conductors shall be not less than eighteen (18) times the outside diameter of the conductor insulation.
- C. Conductors for isolated power systems shall be installed in as short a run of conduit as practicable. No pulling soap shall be used on conductors in isolated power systems.
- D. Color Coding
  1. Conductors to be color coded as follows:
    - A. 120/240 Volt Conductors:
      - Phase A - Black
      - Phase C - Red
      - Neutral - White
    - B. 208Y/120 Volt Conductors:
      - Phase A - Black
      - Phase B - Blue
      - Phase C - Red

Neutral - White

SECTION 161—CABINETS, OUTLET BOXES & PULL BOXES

- Part 1—General
- Part 2—Materials & Installation
- Part 3—Special Notice

PART 1—GENERAL

- A. This section of the specifications covers all electrical cabinets, outlet boxes and pull boxes.
- B. Continuous runs of conduit shall have pull boxes at least each eighty-five (85) feet of run, or as near as possible to that limit.

PART 2—MATERIALS & INSTALLATION

- A. Cabinets, Outlet & Pull Boxes:
  - 1. Cabinets for lighting and power, pull boxes, outlet boxes, or any other purposes specified or shown on the Contract Drawings, shall be constructed of code gauge, galvanized steel with sides formed and corner seams riveted or welded before galvanizing. Boxes assembled with sheet metal screws will not be accepted. Pull boxes shall include all boxes used to reduce the run of conduit to the required number of feet or bends, supports, taps, troughs, and similar applications and shall also be constructed as specified above. All cabinets and boxes for NEMA 1 and 1A application shall be provided with knockouts, as necessary, or shall be cut in the field by approved cutting tools which will provide a clean symmetrically cut opening.
  - 2. The location of outlets as shown on the drawings shall be considered as approximate only. It shall be incumbent upon this Contractor to study the general building drawings with relation to spaces surrounding each outlet, in order to make the work fit the work of others and in order that, when the fixtures are installed, they will be symmetrically located and will not interfere with any other work or equipment. Any change in fixture or layout shall be coordinated with and approved by the Owner before this change is made.
  - 3. Cabinets, outlet boxes (FTGS) and junction or pull boxes (FTGS) shall be threaded for rigid-threaded conduit, dust-tight, vapor-tight or weatherproof as required for areas other than for NEMA 1 or 1A application. These shall be as manufactured by Crouse-Hinds, Appleton, Pyle-National, Killark, or approved equal.
  - 4. NEMA 1 or 1A cabinets, outlet boxes or pull or junction boxes shall be as manufactured by Appleton, Steel City, T & B, Hoffman, or approved equal.
  - 5. Outlet boxes for switches, receptacles, telephone, etc., concealed in walls shall be galvanized steel, 2" x 4" x 1 1/2" with plaster cover for one (1) or two (2) devices, as required. Where outlet boxes are installed in walls of glazed tile, brick, concrete block, or other masonry which will not be covered with plaster or in

walls covered by wood wainscot or paneling, deep sectional masonry boxes shall be used and they shall be completely covered with the plates or lighting fixtures. This Contractor shall cooperate with the brick layers, block layers and carpenters to ensure that the outlet boxes are installed straight and snugly in the walls.

6. Boxes for more than two (2) devices shall be for number of devices required and shall be one piece. No ganging of single switch boxes will be allowed.

### PART 3—SPECIAL NOTICE

- A. Openings for conduit entrance in cabinets and boxes shall be prefabricated, punched, drilled and/or reamed. The use of a cutting torch for this purpose is prohibited.

### SECTION 16J—ELECTRICAL DISTRIBUTION EQUIPMENT

- Part 1—Branch Panel Boards
- Part 2—Installation Instructions
- Part 3—Safety Switches
- Part 4—Fuses

### PART 1—BRANCH PANEL BOARDS

- A. This section covers lighting and power panel boards (refer to schedule and notes on Contract Drawings and One-Line Diagram, of the Contract Drawings).
- B. All panel boards shall be of the circuit breaker type, and shall be of one manufacturer.
- C. Branch panel boards shall be as indicated on the drawings and as specified herein. The lighting panel boards shall be of the dead-front, quick-made, quick-break, bolt-on circuit breaker type, with trip indicating and trip free handles. All circuits shall be clearly and properly numbered and shall be provided with thermal magnetic protection. The panel boards shall be enclosed in code gauge, galvanized steel cabinets with smooth finished hinged doors without visible external fasteners and heavy chrome locks. Locks shall all be keyed alike. Each door shall have a directory card inside covered with a plastic shield, typewritten with circuit numbers and description indicated.
- D. Branch panel boards shall be surface or flush mounted as indicated on the Contract Drawings.
- E. Circuit breakers shall be of RMS symmetrical rating as shown on Drawings.
- F. All main buss and connections thereto in branch panel boards shall be copper. All buss bars shall extend full length of panel boards.
- G. All circuit breakers used to switch lights shall be SWD rated.
- H. Panels shall be Square "D" or equal.

### PART 2—INSTALLATION INSTRUCTIONS

- A. All dust and debris shall be removed from the panels before they are energized and placed in service.

- B. All panel board fronts shall be omitted until final punch list inspection if made. Directories for each panel board shall be completed and available for review by the Engineer at that time.

#### PART 3—SAFETY SWITCHES

- A. Provide heavy duty safety switches as a final disconnect means as required by NEC and as indicated on the Contract Drawings.
- B. All safety switches shall be NEMA type 3R and UL listed.
- C. All safety switches shall have switch blades that are fully visible in the "OFF" (open) position with the door open.
- D. All current carrying parts shall be plated by an electrolytic process to resist corrosion and to promote cooling.
- E. Switch mechanism shall be quick-made, quick-break, load rated, such that during normal operation of the switch, the operation of the contacts shall not be capable of being restrained by the operating handle after the closing and opening action of the contacts has started. The handle and mechanism shall be an integral part of the box (not cover) with facilities for pad locking in the open or closed position with up to three (3) padlocks.
- F. Switches shall be as manufactured by Square D, Siemens, General Electric, Cutler Hammer, or approved equal.

#### PART 4—FUSES

- A. No fuses shall be installed in the equipment until the installation is complete, including tests and inspections required prior to being energized. All fuses shall be of the same manufacturer to ensure retention of selective coordination, as designed.
- B. Circuits 0 to 600 amperes shall be protected by current limiting BUSSMANN LOW-PEAK Dual Element Fuses, LPN-RK (250 volts) or LPS-RK (600 volts) Gould Shawmut, Littelfuse or approved equal. All dual element fuses shall have separate overload and short circuit elements. Fuse shall incorporate a spring activated thermal overload element having 284°F melting point allow and shall be independent of the short-circuit clearing chamber. The fuse shall hold 500% of rated current for a minimum of 10 seconds and be listed by Underwriters Laboratories, Inc. with an interrupting rating of 200,000 amperes r.m.s. symmetrical. The fuses shall be UL Class RK1.
- C. Circuit breaker panels shall be protected by BUSSMANN LOW-PEAK Dual Element fuses LPN-RK (250 volts) or LPS-RK (600 volts) Gould Shawmut, Littelfuse or approved equal as shown on the drawings. The fuses shall be UL Class RK1.

END OF SECTION 16000



## SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

### PART 1 GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Supporting devices for electrical components.
  - 2. Cutting and patching for electrical construction.

#### 1.3 SUBMITTALS

- A. Field Test Reports: Indicate and interpret test results for compliance with performance requirements.

#### 1.4 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. Comply with NFPA 70.

#### 1.5 COORDINATION

- A. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment requiring positioning before closing in the building.
- B. Coordinate electrical service connections to components interfacing with the owner's systems.
  - 1. Comply with requirements of authorities having jurisdiction.
- C. All electrical materials and equipment shall be kept close as possible to ceiling, walls and columns, to take up a minimum amount of space.
- D. Provide all offsets, fittings and similar items necessary in order to accomplish requirements of coordination without additional expense to Owner.

## PART 2 - PRODUCTS

### 2.1 SUPPORTING DEVICES

- A. Material: Cold-formed steel, with corrosion-resistant coating acceptable to authorities having jurisdiction.
- B. Metal Items for Use Outdoors or in Damp Locations: Hot-dip galvanized steel.
- C. Slotted-Steel Channel Supports: Flange edges turned toward web, and 9/16-inch-diameter slotted holes at a maximum of 2 inches o.c., in webs.
  - 1. Channel Thickness: Selected to suit structural loading.
  - 2. Fittings and Accessories: Products of the same manufacturer as channel supports.
- D. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers, wall brackets, and spring-steel clamps or click-type hangers.
- E. Pipe Sleeves: ASTM A 53, Type E, Grade A, Schedule 40, galvanized steel, plain ends.
- F. Expansion Anchors: Carbon-steel wedge or sleeve type.
- G. Toggle Bolts: All-steel springhead type.

## PART 3 - EXECUTION

### 3.1 ELECTRICAL EQUIPMENT INSTALLATION

- A. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide the maximum possible headroom.
- B. Materials and Components: Install level, plumb, and parallel and perpendicular to other building systems and components, unless otherwise indicated.
- C. Equipment: Install to facilitate service, maintenance, and repair or replacement of components. Connect for ease of disconnecting, with minimum interference with other installations.
- D. Right of Way: Give to raceways and piping systems installed at a required slope.

### 3.2 ELECTRICAL SUPPORTING DEVICE APPLICATION

- A. Damp Locations and Outdoors: Hot-dip galvanized materials or nonmetallic, U-channel system components.

- B. Dry Locations: Steel materials.
- C. Selection of Supports: Comply with manufacturer's written instructions.
- D. Strength of Supports: Adequate to carry present and future loads, times a safety factor of at least four; minimum of 200-lb design load.

### 3.3 SUPPORT INSTALLATION

- A. Install support devices to securely and permanently fasten and support electrical components.
- B. Install individual and multiple raceway hangers and riser clamps to support raceways. Provide U-bolts, clamps, attachments, and other hardware necessary for hanger assemblies and for securing hanger rods and conduits.
- C. Support parallel runs of horizontal raceways together on trapeze- or bracket-type hangers.
- D. Size supports for multiple raceway installations so capacity can be increased by a 25 percent minimum in the future.
- E. Support individual horizontal raceways with separate, malleable-iron pipe hangers or clamps.
- F. Install 1/4-inch- diameter or larger threaded steel hanger rods, unless otherwise indicated.
- G. Spring-steel fasteners specifically designed for supporting single conduits or tubing may be used instead of malleable-iron hangers for 1-1/2-inch and smaller raceways serving lighting and receptacle branch circuits above suspended ceilings and for fastening raceways to slotted channel and angle supports.
- H. Separately support cast boxes that are threaded to raceways and used for fixture support. Support sheet-metal boxes directly from the building structure or by bar hangers. If bar hangers are used, attach bar to raceways on opposite sides of the box and support the raceway with an approved fastener not more than 24 inches from the box.
- I. Install metal channel racks for mounting cabinets, panelboards, disconnect switches, control enclosures, pull and junction boxes, transformers, and other devices unless components are mounted directly to structural elements of adequate strength.
- J. Install sleeves for cable and raceway penetrations of concrete slabs and walls unless core-drilled holes are used. Install sleeves for cable and raceway penetrations of masonry and fire-rated gypsum walls and of all other fire-rated floor and wall assemblies. Install sleeves during erection of concrete and masonry walls.

K. Securely fasten electrical items and their supports to the building structure, unless otherwise indicated. Perform fastening according to the following unless other fastening methods are indicated:

1. Masonry: Toggle bolts on hollow masonry units and expansion bolts on solid masonry units.
2. Existing Concrete: Expansion bolts.
3. Light Steel: Sheet-metal screws.
4. Fasteners: Select so the load applied to each fastener does not exceed 25 percent of its proof-test load.

L. Install equipment according to Manufacturer's written requirements. Provide grounding and empty conduits as required.

### 3.4 CUTTING AND PATCHING

A. Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces required to permit electrical installations. Perform cutting by skilled mechanics of trades involved.

B. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing Firestopping has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

### 3.5 FIELD QUALITY CONTROL

A. Inspect installed components for damage and faulty work, including the following:

1. Raceways.
2. Building wire and connectors.
3. Supporting devices for electrical components.
4. Electrical identification.
5. Cutting and patching for electrical construction.
6. Touchup painting.

B. Feeders and branch circuits shall have their insulation tested after installation, and before connection to fixtures and appliances. Perform with a 500-volt Megger. Conductors shall test free from short-circuits and grounds. Test conductors phase-to-phase and phase-to-ground. Test readings shall be recorded and delivered to Architect/Engineer.

C. Other tests to verify proper installation and operation shall include:

1. Proper operation of light fixtures and equipment
2. Continuity of conduit systems

### 3.6 CLEANING AND PROTECTION

- A. On completion of installation, including fixtures, outlets, fittings, and devices, inspect exposed finish. Remove burrs, dirt, paint spots, and construction debris. All devices and equipment shall be free of shipping tags, stickers, etc.
- B. Protect equipment and installations and maintain conditions to ensure that coatings, finishes, and cabinets are without damage or deterioration at time of Substantial Completion.
- C. At completion of work required under this Contract and just prior to acceptance by Owner, thoroughly clean all exposed equipment fittings, fixtures, lenses and accessories and repair any damaged surfaces.

END OF SECTION 16050

## SECTION 16110 - CONDUIT AND RACEWAYS

### PART 1 GENERAL

#### 1.1 WORK INCLUDED

- A. Provide labor, materials, equipment and services necessary for proper and complete installation of electrical raceways.
- B. The requirements of this section apply to electrical raceway work specified elsewhere in these specifications.
- C. Size main trunk conduits and raceway for 90% fill, 100% fill being defined as the maximum allowable number of conductors per the National Electric Code (NEC).

#### 1.2 RELATED DOCUMENTS

- A. General Provisions of Contract, General and Special Conditions and General Requirements.
- B. Requirements of Electrical General Provision Sections govern this Section, where applicable.

#### 1.3 QUALITY ASSURANCE

- A. Comply with applicable portions of National Electrical Manufacturer's Association standards pertaining to metallic and nonmetallic conduit, duct and EMT.
- B. Comply with applicable portions of Underwriters' Laboratories safety standards pertaining to electrical raceways; all products furnished shall be UL-listed and labeled.
- C. Comply with National Electrical Code (NFPA No. 70) as applicable to construction and installation of electrical raceways.

#### 1.4 REFERENCES

- A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
- B. ANSI C80.3 - Electrical Metallic Tubing, Zinc Coated.
- C. ANSI C80.5 - Rigid Aluminum Conduit.
- D. ANSI/NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit and Cable Assemblies.
- E. ANSI/NFPA 70 - National Electrical Code.
- F. NECA "Standard of Installation."

- G. NEMA RN 1 - Polyvinyl Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
- H. NEMA TC 2 - Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).
- I. NEMA TC 3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.

## 1.5 SUBMITTALS

- A. Submit manufacturer's data sheets on surface raceways and accessories.

## PART 2 - PRODUCTS

### 2.1 CONDUIT REQUIREMENTS

- A. Provide assembly of conduit, tubing or duct, and fittings for each electrical raceway system indicated including, but not necessarily limited to, connectors, couplings, offsets, elbows, straps, bushings, expansion joints, hangers, and other components and accessories needed for a complete system.
- B. Provide metal conduit, tubing and fittings of types, grades, sizes and weights (wall thicknesses) for each service indicated. Where types and grades are not indicated, provide proper selection determined by Installer to fulfill wiring requirements, and comply with applicable portions of National Electrical Code for electrical raceways.
- C. Minimum Size: 3/4 inch unless otherwise noted. Single switch legs or single power receptacle drops may be 1/2 inch.
- D. Die-cast zinc-alloy fittings and fittings made of inferior materials, such as "pot metal", shall not be used on any type of rigid or flexible conduit or EMT.
- E. Bushings for metal conduit and EMT shall be insulated type, designed to prevent abrasion of wires without impairing continuity of conduit grounding system. Insulating insert shall be made of thermosetting or fiber material which conforms to flame test requirements of UL 514, molded or locked into metallic body of fitting. Conduit bushings made entirely of nonmetallic material shall not be used.
- D. All locknuts shall be bonding type with sharp edges for digging into metal wall of an enclosure and shall be installed in a manner that will assure a locking installation.
- E. Flexible conduit may be used for connection of equipment as permitted by the National Electrical Code. Flexible conduit may not be used in telephone, fire alarm, intercom, clock, bell, security and other communications systems.
- F. Liquid tight flexible conduit shall be used instead of flexible conduit in locations or where moisture is or could be present.
- G. Areas of Use:

Underground or Below Slab on Grade : PVC, Schedule 80 as shown.

Exterior Exposed:	RGS
Dry Locations:	RGS, IMC, or EMT
Wet and Damp Locations:	RGS, IMC or EMT, (PVC where indicated on Drawings).

## 2.2 RIGID METAL CONDUIT (RGS)

- A. Provide threaded steel conduit in accordance with ANSI C80.1, zinc-coated or coated with an approved corrosion-resistant coating on inside and out.
- B. Fittings: Conduit bodies shall be threaded malleable iron. Compression type threadless fitting shall not be used with threaded steel conduit.
- C. Fittings for threaded raceway shall be tapered thread with all burrs removed, ends fully reamed and cutting oil wiped dry. Fittings shall engage a full seven threads.
- D. Conduits laid directly in or in contact with ground or on a vapor barrier shall be field-coated on outside with asphaltum before installation or shall have an additional outside factory coating of polyvinyl chloride or phenolic-resin epoxy material or other equally flexible and chemical-resistant material. Coating shall extend to 6" above ground or slab level.
- E. Rigid conduit shall be used in all exterior locations.

## 2.3 ELECTRICAL METALLIC TUBING (EMT)

- A. Provide electrical metallic tubing (EMT) in accordance ANSI C80.3, zinc-coated on outside and either zinc-coated or coated with an approved corrosion-resistant coating on inside.
- B. Fittings and Conduit Bodies: ANSI/NEMA FB 1. Couplings and connectors for EMT shall be made of either steel or malleable iron only, and shall be gland and ring compression. All connectors shall have insulated throats. Fittings using indentations as a means of attachment shall not be used. Set screw type fittings are not acceptable.
- C. All EMT fittings used on conduit sizes 2 1/2" and smaller shall be compression type.
- D. Unbroken conduit runs shall not exceed 100 feet.

## 2.4 LIQUID-TIGHT FLEXIBLE CONDUIT

- A. Shall consist of a core of flexible galvanized steel tubing over which is extruded a liquid-tight jacket of poly-vinyl chloride (PVC). Liquid-tight flexible conduits not



larger than 1-1/4 inch size shall be provided with a continuous copper bonding conductor wound spirally between convolutions. Minimum size 3/4".

- B. Fittings: ANSI/NEMA FB 1. Fittings shall be of a type incorporating a threaded grounding cone, a steel, nylon or equal plastic compression ring, and a gland for tightening. Fittings shall be made of either steel or malleable iron only, shall have insulated throats and shall be of a type having a male thread and locknut or male bushing with or without "O" ring seal.

## 2.5 FLEXIBLE METAL CONDUIT (commercial Greenfield)

- A. Flexible metal conduits shall be constructed of interlocked steel, minimum 1/2".
- B. Fittings: ANSI/NEMA FB 1. Fittings shall be made of either steel or malleable iron only, shall be insulated and shall be of one of the following types:
  - (a) Wedge and screw type having an angular wedge fitting between convolutions of conduit.
  - (b) Squeeze or clamp type having a bearing surface contoured to wrap around conduit and clamped by one or more screws.
  - (c) Steel, multiple point type, for threading into internal wall of conduit convolutions.

## 2.6 RIGID NON-METALLIC CONDUIT (PVC)

- A. Provide nonmetallic conduit in accordance to NEMA Standards Pub. No. TC 3; Schedule 80 PVC. Conduit shall be UL listed for above ground, encasement, below ground and direct burial applications; rated for 90 degree C and made from virgin polyvinyl chloride.
- B. Fittings for PVC conduit shall meet ANSI/NEMA TC 9. Fitting and conduit shall be by the same manufacturer to assure system integrity. Conduit and fittings shall be solvent welded in accordance with manufacturer's instructions.

## 2.7 SEALING AND EXPANSION FITTINGS:

- A. Sealing fittings for use with threaded steel conduits shall be threaded, zinc or cadmium coated, cast or malleable iron type and sealing fittings for use on aluminum conduit shall be of threaded cast aluminum type. Fittings used to prevent passage of water vapor shall be of the continuous drain type.
- B. Expansion fitting shall be made of hot-dipped galvanized malleable iron and shall have a factory installed packing, which will prevent entrance of water, a pressure ring, and a grounding ring. In addition to grounding ring, provide a separate external copper bonding jumper secured by grounding straps on each end of fitting.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install conduit, tubing and duct products as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and complying with recognized industry practices to ensure that products serve intended functions. Handle conduit and tubing carefully to prevent bending and end-damage, and to avoid scoring finish.
- B. Do not install EMT underground, in slabs on grade, in wet locations, in hazardous areas, or for circuits operating at more than 600 volts. Metallic conduit buried in ground shall be threaded steel only. Exposed conduit installed less than 8 feet above finished floor shall be threaded steel.
- C. Use flexible conduits for connections to motors and other electrical equipment when it is subject to movement, vibration, misalignment, cramped quarters or where noise transmission is to be eliminated or reduced. Flexible conduit used to meet the above requirements shall in addition be liquid-tight type when installed under any of the following conditions:
  - (1) Exterior locations.
  - (2) Wet or humidity laden atmosphere where it is possible for condensation to accumulate.
  - (3) Where water or spray due to wash down operations is possible.
  - (4) Corrosive atmosphere.
  - (5) Wherever there is a possibility of seepage or dripping of oil, grease or water.
- D. Run exposed conduits and EMT parallel to or at right angles to lines of building. Install no more than equivalent of three 90-degree bends between boxes. Use conduit bodies to make sharp changes in direction, as around beams.
- E. Use factory elbows or hydraulic one-shot bender to field fabricate bends in metal conduit 2 inch and larger. In PVC conduits use factory elbows only; offsets and non-standard radius bends shall be made with approved heaters or heating blankets. All bends shall be free from dents, flattening or distortion.
- E. Conduit Supports
  - 1. Provide individual pipe hangers, multiple (trapeze) pipe hangers, and riser clamps as necessary to support conduits. All parts and hardware shall be zinc-coated throughout. Provide all U-bolts, clamps, attachments and other hardware necessary for hanger assembly and for securing hanger rods and conduits. Design each multiple hanger to support a load equal to or greater than the sum of weights of conduits, wires, hanger itself and 200 pounds.

2. All EMT and conduits shall be securely and independently supported so that no strain will be transmitted to outlet box and pull box supports. Supports shall be rigid enough to prevent distortion of conduits during wire pulling.
  3. Hangers and conduit supports shall not utilize or depend upon the support systems of other trades.
  4. Support individual horizontal conduits by one hole pipe straps or separate pipe hangers for sizes 1-1/2 inch and smaller, and by separate pipe hangers for larger sizes. Spring steel fasteners may be used in lieu of pipe straps or hangers for sizes 1-1/2 inch and smaller in dry locations only. Hanger rods used with spring steel fasteners shall not be less than 1/4 inch diameter steel with corrosion resistant finish. Spring steel fasteners shall be specifically designed for supporting single conduits or EMT. Do not use wire as a means for support.
  5. Group related conduits traveling in same direction. Where two or more conduits run parallel and at the same elevation, they shall be supported on multiple (trapeze) pipe hangers. Construct trapeze using 1-1/2"x1-1/2" galvanized steel channel. Hanger rods shall not be less than 3/8 inch. Secure each conduit or EMT to horizontal member by a U-bolt, one hole strap or other specifically designed and approved fastener. Provide space on each trapeze for 25 percent additional conduits.
- F. Conduit and EMT runs shall be mechanically and electrically continuous from service entrance to all outlets. Unless otherwise specified, each conduit shall enter and be securely connected to a cabinet, junction box, pull box or outlet box by means of a locknut on outside and a bushing on inside or by means of a liquid-tight, threaded, self-locking, cold-weld type wedge adapter. Where nominal circuit voltage exceeds 250 volts in rigid conduit, an additional locknut shall be provided, one locknut being inside and one locknut outside; in EMT or flexible metal conduit, the one locknut shall be made wrench-tight. Locknuts and bushings or self-locking adapters will not be required where conduits are screwed into tapped connections.
- G. All vertical runs of conduits or EMT terminating in bottoms of wall boxes or cabinets shall be protected from entrance of foreign material prior to installation of conductors.
- H. Unless otherwise specified or indicated on Drawings, all conduit and EMT shall be installed concealed. Conduit and EMT may be run exposed on unfinished walls, on unfurred basement ceilings, in penthouses, and attic spaces unless otherwise noted.
- I. Horizontal cross runs of conduit or EMT may be installed in partitions or masonry only where explicitly permitted by Architect/Engineer. Install exposed horizontal runs, where permitted, close to ceiling or ceiling beams and above water, steam or other piping. Run conduits and EMT connected to wall outlets in such a manner that

they will not cross water, steam or waste pipes or radiator branches. Do not run conduits and EMT through beams, except where clearly indicated on Drawings or where permitted by Architect/Engineer.

- J. Maintain 12 inch clearance between conduit and piping or surfaces with temperatures exceeding 104 degrees F (40 degrees C).
- K. Conduits and raceways shall be installed so as not to interfere with removal of ceiling grid or through any location that will limit access to or function of any equipment or building system.
- L. Install every conduit system complete before conductors are drawn in. Conduits shall be swabbed free of debris and moisture prior to pulling in wire.
- M. All conduit installed and left empty for future use shall have pull wire installed. Conduit stubs outs shall have bushings installed on ends.
- N. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for 15 minutes, minimum.
- O. Expansion Fittings: Each conduit that is buried in or rigidly secured to building construction on opposite sides of a building expansion joint, turned up from trench to building structure, and each long run of exposed conduit that may be subject to excessive stresses shall be provided with an expansion fitting. Where conduits are buried in concrete, they shall cross building expansion joints at right angles, and expansion fittings shall be installed in accordance with manufacturer's instructions. Provide free ends of conduits with insulated bushings. Where conduits cross building expansion joints, the Contractor shall furnish and install a sliding expansion joint. Expansion joints shall be installed with bonding straps and clamps.
- P. Lighting control circuits shall be installed in separate raceway system from remainder of electrical system.

END OF SECTION 16110

## SECTION 16120 - CABLE, WIRE AND CONNECTORS

### PART 1 GENERAL

#### 1.1 WORK INCLUDED

- A. Provide labor, materials, equipment and services necessary for proper and complete installation of cable, wire and connectors.
- B. Requirements of this section apply to cable and wire work specified elsewhere in these specifications.
- C. Unless specified otherwise in the Section or indicated on Drawings, temperature control wiring and interlock wiring required for temperature control is specified under Division 15. Refer to Division 15 and coordinate work accordingly.

#### 1.2 RELATED DOCUMENTS

- A. General provisions of Contract, General and Special Conditions and General Requirements apply to work specified in this section.
- B. Requirements of Electrical General Provision Sections govern this Section, where applicable.

#### 1.3 QUALITY ASSURANCE

- A. Comply with National Electrical Code (NFPA 70) as applicable to construction and installation of electrical cable, wire and connectors.
- B. Provide electrical cable, wire and connectors which have been listed and labeled by Underwriters Laboratories.
- C. Comply with National Electrical Manufacturer's Association/ Insulated Power Cable Engineers Association Standards publications pertaining to materials, construction and testing wire cable, where applicable.

### PART 2 PRODUCTS

#### 2.1 BUILDING WIRE

- A. Provide factory-fabricated cable, wire and connectors of sizes, ratings, materials and types indicated for each service. Where not indicated, provide proper selection as determined by Installer to comply with project's installation requirements and NEC standards.

- B. Use single conductor annealed copper type for all wires and cables for secondary service, feeders and branch circuits, unless specified otherwise. Minimum 12 AWG for power and lighting circuits.
- C. Use No. 12 AWG or No. 10 AWG solid conductor for branch circuit wiring connected to receptacles, lighting switches and snap switches.
- D. Use minimum 90 degree C rated insulation unless specified otherwise, indicated on Drawings, or required by NEC. Insulation shall be Type THWN/THHN.
- E. Use 600 volt insulation rating unless specified or indicated otherwise. Where operating voltage is less than 100 volts, wires or cables may be insulated for 300 volts provided they are isolated from higher voltage systems.

## 2.2 REMOTE CONTROL AND SIGNAL CABLE

- A. Control Cable for Class 1 Remote Control and Signal Circuits: Copper conductor, 600 volt insulation, rated 60 degree C, individual conductors twisted together and covered with a PVC jacket.
- B. Control Cable for Class 2 or Class 3 Remote Control and Signal Circuits: Copper conductor, 300 volt insulation, rated 60 degree C, individual conductors twisted together and covered with a PVC jacket; UL listed.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Provide complete wiring from point of service connection to all receptacles, lighting fixtures, devices, utilization equipment and outlets for future extensions, as indicated on Drawings. Provide ample slack wire for connections. Unless otherwise specified, provide No. 12 AWG or larger for all branch circuit conductors. In outlet boxes designated for future use, tape ends of wires and install blank covers.
- B. Unless otherwise indicated, install all wiring in rigid metal conduit, electric metallic tubing, or flexible metallic conduit as specified or indicated on Drawings.
- C. Install electrical cable, wire and connectors as indicated, in accordance with manufacturer's written instructions, applicable requirements of NEC and NECA's "Standard of Installation", and in accordance with recognized industry practices to ensure products serve intended functions.
- D. Use pulling compound or lubricant, when necessary; compound must not deteriorate conductor and insulation.
- E. Color Code: All secondary service, feeder and branch circuit conductors throughout

project as follows:

<u>Phase</u>	<u>120/208Y volts</u>
A	Black
B	Red
C	Blue
Neutral	White
Ground	Green

- F. Insulation on sizes 8 AWG and smaller shall be color-coded, on larger sizes provide phase color with pressure sensitive tape.
- G. Neatly train and lace wiring inside boxes, equipment and panelboards.
- H. All conductors No. 10 and smaller located in branch circuit panelboards, signal cabinets, signal control boards, switchboards and motor control centers shall be neatly and securely bundled. Use nylon straps made of self-extinguishing nylon having a temperature range of -65 degrees F. to +350 degrees F. Construct each strap with a locking hub or head on one end and a taper on other.
- I. Place an equal number of conductors for each phase of a circuit in same raceway or cable. Make conductor lengths for parallel circuits equal. All conductors in one raceway shall be installed at one time. Do not split phases into separate conduit runs.
- J. Not more than one multi-wire or three circuits shall be installed in each raceway unless noted otherwise on plans. Raceways containing more than one neutral shall be tagged to identify associated branch circuit.
- K. Not more than one 120 or 277 volt branch circuit shall be served with a common neutral. In no instance shall a common neutral be used in dimming circuits, ground fault protected circuits or two circuits connected to the same panel bus. Piggy back circuit breakers are not allowed in this project.
- L. Do not install wire in raceway until interior of building has been physically protected from the weather and all mechanical work likely to damage conductors has been completed.
- M. All conductors shall be permanently tagged by circuit number or terminal number in all junction boxes, panelboards or other termination enclosure.
- N. Minimum wire size for remote D.C. emergency lamps shall be No. 10 AWG. Field verify for maximum five percent voltage drop where wattage exceeds 25 watts on a circuit.

### 3.2 CABLE INSTALLATION

- A. Provide protection for exposed cables where subject to damage.
- B. Support cables above accessible ceilings; do not rest on ceiling tiles. Use spring metal clips and/or bridle rings to support cables from structure. Do not attach to conduit systems.
- C. Use suitable cable fittings and connectors. Leave minimum 12 inches of wire at all outlets for connections and changes.
- D. Provide conduit sleeves with bushings at all wall penetrations.
- E. Maintain separation of cables from parallel power conduit or hot piping systems and ducts.
- F. Follow manufacturers recommendations for pulling tension, maximum 25 pounds on 4 pair cable. Do not splice cable.

### 3.3 WIRING CONNECTIONS AND TERMINATIONS

- A. Splice only in accessible junction boxes and use splice and tap connectors which are compatible with conductor material.
- B. Splices in No. 8 AWG and smaller shall be made with spring pressure, insulated wire nut connector. Splices in No. 6 AWG and larger shall be made with compression type mechanical connectors fully taped and insulated to full insulation value of the conductor.
- C. Pressure crimp fork or ring type termination's shall be provided at motor and equipment termination's where provided on terminal leads.
- D. Thoroughly clean wires before installing lugs and connectors.
- E. Make splices, taps and termination's to carry full ampacity of conductors without perceptible temperature rise.
- F. Terminate spare conductors with electrical tape.

### 3.4 FIELD QUALITY CONTROL

- A. Inspect wire and cable for physical damage and proper connection.
- B. Torque test conductor connections and termination's to manufacturer's recommended values.



- D. Prior to energization, check cable and wire for continuity of circuitry and for short circuits. Verify proper phasing connections.
- E. Subsequent to wire and cable hook-ups, energize circuitry and demonstrate functioning in accordance with requirements.

END OF SECTION 16120

## SECTION 16130 - ELECTRICAL ENCLOSURES, BOXES AND FITTINGS

### PART 1 GENERAL

#### 1.1 WORK INCLUDED

- A. Provide labor, materials, equipment, and services for proper and complete installation of telephone termination cabinets, electrical boxes and fittings. Provide boxes, cabinets, and fittings as indicated on Drawings, schedules, and as required for job.
- B. Extent of electrical box and electrical fitting work is indicated by drawings and schedules, and requirements of this section.

#### 1.2 RELATED DOCUMENTS

- A. General Provisions of Contract, General and Special Conditions and General Requirements.
- B. Requirements of Electrical General Provision Sections govern this Section, where applicable.

#### 1.3 QUALITY ASSURANCE

- A. Comply with National Electrical Code (NFPA 70) as applicable to construction and installation of electrical boxes and fittings.
- B. Provide boxes and fittings which have been listed and labeled by Underwriters Laboratories.
- C. Comply with National Electrical Manufacturer's Association standards as applicable to nonmetallic fittings for underground installation.
- D. ANSI/NEMA FB 1 - Fittings and Supports for Conduit and Cable Assemblies.
- E. ANSI/NEMA OS 1 - Sheet-steel Outlet Boxes, Device Boxes, Covers and Supports.
- F. NEMA 250 - Enclosures for Electrical Equipment.

### PART2 - PRODUCTS

#### 2.1 WEATHERPROOF OUTLET BOXES

- A. Provide corrosion-resistant cast metal weatherproof outlet wiring boxes with threaded conduit entry, of type, shape and size, suitable for each application. Include

cast metal face plate with spring-hinged waterproof cap, face plate gasket and corrosion proof fasteners.

## 2.2 JUNCTION AND PULL BOXES

- A. Provide factory fabricated, galvanized sheet steel junction and pull boxes, with screw-on covers; of type, shape and size, to suit each respective location and installation; with welded seams and equipped with stainless steel nuts, bolts, screws and washers.
- B. Boxes exposed to weather shall be JIC type NEMA 4 weatherproof with gasketed hubs at side and top conduit entries.

## 2.3 CONDUIT BODIES

- A. Provide galvanized or aluminum cast-metal conduit bodies, of type, shape, and size, to suit each respective location and installation, constructed with threaded conduit ends, removable cover, and corrosion-resistant screws.

## 2.4 BUSHINGS, KNOCKOUT CLOSURES AND LOCKNUTS

- A. Provide corrosion-resistant punched-steel box knockout closures, conduit locknuts and malleable iron conduit bushings of type and size to suit each respective use and installation.

## 2.5 CABINETS AND PULL BOXES

- A. All cabinets and pullboxes shall have inside dimensions as shown on the drawings or as required by the National Electrical Code where sizes are not shown on the drawings.
- B. Cabinets and pullboxes shall conform to UL-50 and shall be labeled accordingly.
- C. Pullboxes in interior locations shall be galvanized code gauge steel.
- D. Covers shall be screw-on type of same construction as box. Where covers are over 600 square inches they shall be hinged on one side with hinges spaced a maximum of 18 inches apart. Covers shall be held closed by lock or screws.
- E. Cabinets and pullboxes in damp or wet locations shall be of the cast type with threaded hubs and gasketed covers and shall conform to NEMA-4 construction.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install electrical boxes and fittings as indicated, or in compliance with NEC requirements, in accordance with manufacturer's written instructions and with recognized industry practices to ensure that boxes and fittings serve intended purposes.
- B. Do not install flush boxes back to back in walls or use through wall boxes. Provide minimum 24 inch separation in acoustically treated walls.
- C. Provide knockout closures to cap unused knockout holes where blanks have been removed.
- D. Secure boxes rigidly to substrate upon which they are being mounted, or solidly embed boxes in concrete or masonry. Support boxes independent of conduit or ceiling support wires.
- E. Use multiple gang boxes where more than one device is mounted together; do not use sectional boxes. Provide barriers to separate wiring of different voltage systems.
- F. Use weatherproof type threaded hub type outlet boxes with gasketed weatherproof covers where surface mounted at following locations:
  - (1) Exterior locations.
  - (2) Where exposed to moisture laden atmosphere.
  - (3) Where indicated on drawings.
- G. Outlet boxes shall be installed flush in all finished areas unless otherwise noted. Securely mount box and accurately position to allow for surface finish thickness.
- H. Measure mounting height from finished floor to center line of cover plate. Receptacles shall be installed vertically unless noted otherwise.
- I. Saw out openings for boxes in exposed masonry walls. Locate boxes in brick or concrete block above or below the mortar joint. Coordinate cutting and installation with installing trade to achieve a straight, snug and secure installation.
- J. Provide pull boxes in long circuit runs in accordance with NEC and as needed. Accurately record locations of pull and junction boxes in feeder circuits on As-Built Drawings.
- K. Locate and install boxes to allow access, position outlets to locate lighting fixtures as shown on ceiling plans. In inaccessible ceiling areas position outlet/junction boxes

within 6 inches of removable recessed Luminaire or access panel to be accessible through ceiling opening.

- L. Pull and junction boxes shall be sized in accordance with the NEC as minimum for both conductors contained and conduit entries. Support boxes independent of conduit.
- M. Electrical box locations shown on Drawings are approximate unless dimensioned. Devices shall be installed symmetrically and located to avoid interference with equipment of other work. Verify location of floor boxes and outlets in office/work areas prior to rough in.

END SECTION 16130

## SECTION 16195 - ELECTRICAL IDENTIFICATION

### PART 1 GENERAL

#### 1.1 WORK INCLUDED

- A. Provide labor, materials, equipment and accessories necessary to provide required identification of electrical equipment, boxes, panelboards, etc.
- B. Equipment disconnect switches, switchboards, motor starters, push-button stations, motor control centers, panelboards, special device plates, FACP, Dry type Transformers, contactors, and similar material shall be clearly marked.

#### 1.2 RELATED DOCUMENTS

- A. General Provisions of Contract and other Special Conditions and General Requirements apply to this Section.
- B. Requirements of Section 16000 "Electrical General Provisions" govern work specified in this section.

#### 1.3 QUALITY ASSURANCE

- A. Comply with National Electrical Code (NFPA 70) as applicable to provision and installation of electrical identification.

### PART 2 - PRODUCTS

#### 2.1 EQUIPMENT

- A. EQUIPMENT IDENTIFICATION: Equipment identification shall consist of black core plastic laminate nameplates with white engraved lettering. Signs for individual devices shall have 1/4" high letters. Mark panelboards, switchboards, motor control centers, and equipment giving panel designation in 1/2" high letters and source circuit in 1/4" high letters.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Where identification is applied to surfaces which require a finish, identification shall be installed after surface has been finished.
- B. Equipment Identification: Install engraved signs at or on each circuit breaker, switch, motor controller, panelboard, switchboard, special apparatus, and communications and signal systems, unless equipment is specified herein with its own self-

explanatory identification. Text shall match terminology and numbering of the contract documents and shop drawings as close as practicable. Signs shall not cause interference with operation and maintenance of equipment. Attach signs with rustproof screws.

- C. Circuit Identification: Install typewritten directories in all branch circuit panelboards describing the load served by each circuit. Identify spaces and spares in pencil. If room numbers assigned by the Owner do not match those on the drawings both sets of numbers must be cross-referenced and identified in the panel directory.
- D. Junction Box Identification: Identify circuits contained in each junction box on exterior cover w/permanent marker.
- E. Provide wire markers on each conductor in panelboard gutters, pull and junction boxes, outlet boxes and at load connection. Identify with branch circuit or feeder number for power and lighting circuits and terminal numbers for control wiring.

END OF SECTION 16195

## SECTION 16450 - ELECTRICAL GROUNDING

### PART 1 GENERAL

#### 1.1 WORK INCLUDED

- A. Provide labor, material, equipment and services for proper and complete electrical grounding system in accordance with National Electric Code requirements and as indicated here-in and on the Contract Drawings.

#### 1.2 RELATED DOCUMENTS

- A. General provisions of Contract, General and Special Conditions and General Requirements, apply to this section.
- B. Electrical general provisions sections govern this section, where applicable.

#### 1.3 SYSTEM DESCRIPTION

- A. Grounding of electrical installations comprises both system and equipment grounding, and includes, but is not necessarily limited to, metal raceways, metal enclosures of electrical devices, and circuit conductors.
- B. Supplement grounded neutral of secondary distribution system by an equipment grounding system to properly safeguard equipment and personnel. Design equipment grounding system so all metallic structures, enclosures, raceways, junction boxes, outlet boxes, cabinets, portable equipment, and other conductive items in close proximity with electrical circuits operate continuously at ground potential and provide a low impedance path for possible ground fault currents.
- C. Size required equipment grounding conductors in compliance with NEC. Provide equipment grounding conductors with green insulation equivalent to insulation on associated phase conductors. Connect branch circuit grounding conductors to grounding bar with approved pressure connectors.
- D. Provide distribution systems with a separate green insulated equipment grounding conductor for each single or three-phase branch circuit. Install required grounding conductor in common conduit with related phase and/or neutral conductors. Where there are parallel feeders installed in more than one raceway, each raceway shall have a green insulated equipment ground conductor. Provide flexible metallic conduit equipment connections with suitable green insulated grounding conductors connected to approved grounding terminals at each end of flexible conduit.
- E. Determine number and size of pressure connectors to be provided on all equipment grounding bars required in panelboards and other electrical equipment for



termination of equipment grounding conductors. In addition to active circuits, provide pressure connectors for all spares and spaces.

#### 1.4. QUALITY ASSURANCE

- A. Comply with NFPA No. 70, National Electrical Code, as applicable to materials and installation of electrical grounding systems and associated equipment and wiring.
- B. Comply with UL standards pertaining to electrical grounding and bonding.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Ground Rods: Copper-encased steel, 5/8 inch diameter, minimum length 8 feet.
- B. Electrical cable, wire, connectors, clamps, and raceway work are specified in applicable Division 16 sections.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Install electrical grounding systems, in accordance with applicable portions of National Electrical Code, and in accordance with recognized industry practices to ensure that electrical grounding complies with requirements and serves intended purposes.
- B. Coordinate with other electrical work, as necessary to interface installation of electrical grounding system with other work.
- C. Install clamp-on connectors only on thoroughly cleaned metal contact surfaces, to ensure electrical conductivity and circuit integrity.
- D. Where connections will be permanently concealed make connections by exothermic weld to form solid metal joints.
- E. Install an electrical grounding conductor per NEC to the domestic water service at closest point to building entrance.

END OF SECTION 16450

## SECTION 16470 - PANELBOARDS

### PART 1 GENERAL

#### 1.1 WORK INCLUDED

- A. Provide all labor, materials, equipment and services necessary for proper and complete installation of panelboards.
- B. Lighting and Appliance Branch Panelboards.

#### 1.2 RELATED DOCUMENTS

- A. General Provisions of Contract, General and Special Conditions and General Requirements, apply to this section.
- B. Requirements of Electrical General Provision Sections govern this Section, where applicable.

#### 1.3 QUALITY ASSURANCE

- A. Special Use Markings: Provide panelboards, constructed for special use with UL marks indicating that special usage, i.e., "suitable for use as service entrance equipment".
- B. UL Compliance: Comply with applicable UL publications pertaining to panelboards, enclosures and panelboard accessories. Provide units that have been listed and labeled by Underwriters Laboratories.
- C. NEC Compliance: Comply with National Electrical Code (NFPA 70/ANSI C1) as applicable to installation of cabinets, cutout boxes and panelboards. Comply with applicable NEC Articles pertaining to installation of wiring and equipment in hazardous locations.
- D. National Electrical Manufacturers Association (NEMA):
  - 250 Enclosures for Electrical Equipment
  - PB 1 Panelboards
  - PB 1.1 Instructions for Safe Installation, Operation and Maintenance of Panelboards
  - PB 1.2 Application Guide for Ground Protective Devices for Equipment.
- E. FS W-C-375 Circuit Breakers

#### 1.4 SUBMITTALS

- A. Submit manufacturer's data on panelboards, enclosures and overcurrent devices.

- B. Submit dimensioned drawings of panelboards and enclosures indicating accurately scaled layout of enclosures and required individual panelboard devices, including but not necessarily limited to, circuit breakers and accessories.
- C. Include outline and support point dimensions, voltage, bus ampacity, integrated short circuit rating, and branch device arrangement and sizes.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Square D. Company.
- B. Siemens.
- C. General Electric
- D. Cutler Hammer
- E. Or approved equal

### 2.2 GENERAL

- A. Except as otherwise indicated, provide panelboards, enclosures and ancillary components, of types, sizes, and ratings indicated, which comply with manufacturer's standard materials, design and construction in accordance with published product information. Equip with number of unit panelboard devices as required for a complete installation. Where types, sizes, or ratings are not otherwise indicated, comply with NEC, UL and established industry standards for applications indicated.
- B. Buses shall be 98% conductivity copper, tin plated. Bus capacity shall be as indicated on drawings, otherwise, bus capacity shall be equal to or greater than panelboard feeder overcurrent protective device. All terminals for wiring connections shall be suitable for copper.
- C. Provide a bare, uninsulated, copper equipment grounding bar suitably brazed or bolted to interior of each enclosure. This bar shall be equivalent in current carrying capacity to incoming feeder ground conductor and shall be suitable for brazed or approved pressure connector terminations of ground conductors for associated feeders and branch circuits.
- D. Provide a copper neutral bar, insulated from the equipment grounding bar and the interior of the enclosure, shall be mounted at opposite end of each panelboard from main lugs and shall have numbered terminals for connection of neutral wires.
- E. Bus bar connections to branch circuit overcurrent protection devices shall be of sequence phased type.

- F. Where "provision for," "future", or "space" is indicated on drawings, space shall be equipped with bus connections to future over-current device with suitable insulation and bracing to maintain proper short circuit rating and voltage clearances. All provisions shall be made for ready insertion of a future device.
- G. All panelboards shall be dead front type.
- H. Provide galvanized sheet steel cabinet type enclosures, in sizes and NEMA types as indicated, code-gauge, minimum 16-gauge thickness. Provide fronts with adjustable indicating trim clamps, and doors with flush locks and keys, all panelboard enclosures shall be keyed alike. Provide enamel finish over a rust inhibitor. Design enclosure for recessed or surface mounting as indicated on Drawings. Provide enclosures fabricated by same manufacturer as panelboards, and which fit properly with panelboards to be enclosed. All panelboards in public corridors shall be recessed.
- I. Circuit breaker protective devices shall be rated for circuit voltage on which they are used; have trip rating and number of poles indicated on drawings; and be trip free. Automatic tripping shall be indicated by a handle position between manual OFF and ON position.
- J. Circuit breakers for use with air conditioning and refrigeration equipment shall be UL listed type HACR.

### 2.3 BRANCH CIRCUIT PANELBOARDS

- A. Lighting and Appliance Branch Circuit Panelboards: NEMA PB1, circuit breaker type.
- B. Provide enclosure and mounting type as indicated on Drawings with concealed trim clamps, concealed hinge and flush, keyed lock. All panelboards shall be keyed alike and contain special cylinder for WKU master key system. Finish in manufacturer's standard gray enamel. Cabinet shall be nominal 6 inches deep and 20 inches wide.
- C. Provide bus ratings as scheduled on Drawings.
- D. Minimum Integrated Short Circuit Rating shall be:
  - 35,000 amperes RMS symmetrical for 208 and 240 volt panelboards
  - 65,000 amperes RMS symmetrical for 480 volt panelboardsor as indicated on Drawings. In all cases, circuit breakers shall have an interrupting rating greater than the available fault current at their location in the electrical system.
- E. Molded Case Circuit Breakers shall be bolt-on type thermal magnetic type with common trip handle for all poles. Provide circuit breakers UL listed as switching duty (SWD) for all lighting circuits. Provide UL Class A ground fault interrupter

circuit breakers where scheduled. Provide shunt trip circuit breakers where scheduled.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Install panelboards and enclosures, in accordance with manufacturer's written instructions, applicable requirements of NECA and in accordance with recognized industry practices to ensure that products comply with requirements and serves intended purposes.
- B. Install lighting and power panelboards with tops 6 feet 6 inches above floor and bottoms not less than 12 inches above floor (multi-section panels shall be provided to meet these spacings) arranged for conduit connections. Mount surface mounted panels on metal channels.
- C. Coordinate installation of panelboards and enclosures with cable and raceway installation work.
- D. Anchor enclosures firmly to walls and structural surfaces, ensuring that they are permanently and mechanically secure.
- E. Provide electrical connections within enclosures.
- F. Provide typewritten circuit directories placed under a clear plastic cover on interior of doors upon completion of this work. If room numbers assigned by owner do not match those on the drawings both sets of numbers must be cross referenced and identified in the panel directory. Identify spares with a pencil on the directories.
- G. For panelboards without doors, provide a separate laminated phenolic identification plate on or near each device cover and provide same information that directories described above require.
- H. Panelboards flush mounted in public areas shall be painted to match adjacent wall finish.
- I. Where feeders go through panelboards cabinets to serve panelboards above or beyond same, wiring gutters in panelboard cabinets shall be a minimum of 8 inches on sides and 8 inches top and bottom. Cables shall be neatly bundled, routed and supported within gutters. Do not reduce minimum bending radii as recommended by cable manufacturer.
- J. Provide recessed panelboards with conduits of sufficient capacity to carry required number and size of future conductors for all spare branch circuit protective devices

and spaces stubbed up to above accessible ceiling; Minimum of 4 - 1 inch and 6 - 3/4 inch stubs.

### 3.2 FIELD TESTING

- A. Measure and record steady state load currents at each panelboard feeder. Should the difference at any panel between phases exceed 20 percent, rearrange circuits accordingly. Take care to maintain proper phasing for multi-wire circuits and update panel directories accordingly.
- B. Inspect for physical damage, proper alignment, connections and grounding.

### 3.3 PANELBOARD SCHEDULES

- A. See Drawings for panelboard schedules.

END OF SECTION 16470

## SECTION 16475 - OVERCURRENT PROTECTIVE DEVICES

### PART 1 GENERAL

#### 1.1 WORK INCLUDED

- A. Provide all labor, materials, equipment and services necessary for proper and complete installation of overcurrent protective devices.
- B. Enclosed Circuit Breakers
- C. Fuses

#### 1.2 RELEATED DOCUMENTS

- A. General Provisions of Contract, General and Special Conditions and General Requirements, apply to this section.
- B. Requirements of Electrical General Provision Sections govern work specified in this Section.

#### 1.3 QUALITY ASSURANCE

- A. Codes and regulations referred to are minimum standards. Where the requirements of these specifications or drawings exceed those of the codes and regulations, the drawings or specifications govern.
- B. Comply with the latest National Electrical Code (NFPA 70).
- C. Fuses shall be listed by U.L.
- D. NEMA AB 1

#### 1.4 SUBMITTALS

- A. Submit manufacturer's product data on each device type. Include voltage characteristics, frame and trip ratings, dimensional data and time-current characteristics.
- B. Submit the following in accordance with Section 16000:
  - a. Enclosed Molded Case Circuit Breakers
  - b. Fuses

## PART 2 - PRODUCTS

### 2.1 MOLDED CASE CIRCUIT BREAKERS:

- A. Molded case circuit breakers shall provide complete circuit overcurrent protection by having inverse time and instantaneous tripping characteristics, and where indicated on the Drawings or specified herein shall be current limiting.
- B. Circuit breakers shall be operated by a toggle-type handle and shall have a quick-make, quick-break over-center switching mechanism that is mechanically trip free. Automatic tripping of the breaker shall be indicated by handle position. Contacts shall be non-welding silver alloy and arc extinction shall be accomplished by means of arc chutes.
- C. Circuit breaker interrupting capacities shall be as indicated on the Drawings or as specified elsewhere in these specifications
- D. Individually mounted enclosed circuit breakers shall incorporate hinged covers with external operating handles. Devices shall be removable from the front.
- E. Where indicated on the Drawings, required by National Electric Code or specified herein, breakers shall have built-in ground fault protection with adjustable pick-up rating not exceeding 1200 amperes. Ground fault time delay shall be adjustable 0.1 to 0.5 seconds. Breakers shall have a neutral ground fault current transformer for 4-wire systems.

### 2.2 FUSES

- A. Provide all fuses for project supplied by same manufacturer. Proper selectivity with associated protective equipment shall be substantiated by published catalog data. Acceptable manufacturers include: Bussman, GE, Gould Shawmut, Littelfuse, or approved equal.
- B. Fuses in devices through 600 ampere capacity shall be UL Class RK1, dual element, current limiting, as specified herein or as indicated on the Drawings. Class RK-1 fuses shall have minimum time delay of ten seconds at 500 percent of rating.
- C. Fuses in devices greater than 600 ampere capacity shall be UL Class L, time-delay, current limiting.
- D. All fuses shall be voltage rated for the system in which they are installed.
- E. Current-limiting high interrupting capacity fuses coordinated with air and molded case circuit breakers shall be furnished by the breaker manufacturer for complete coordination.



- F. Special Fuses: Fuses in control circuits and special applications shall be of type and size for duty for the specific application.

### PART 3 - EXECUTION

#### 3.1 INSTALLATION

- A. Install overcurrent protective devices as indicated on the Drawings or specified herein, in accordance with manufacturer's written instructions, applicable portions of the National Electric Code and recognized industry practice.
- B. Except as otherwise specified herein, provide complete sets of fuses for all switches requiring fuses. Fuses shall be of size indicated on Drawings.
- C. Switch size and fuse ratings indicated on Drawings and/or specified are based on general values for each motor horsepower delineated. Since characteristics of fuses for motor short circuit protection vary with different manufacturers, coordinate fuse values for each motor.
- D. CIRCUIT BREAKERS:
  - 1. Fasten circuit breakers without causing mechanical stresses, twisting or misalignment being exerted by clamps, supports, or cabling.
  - 2. Set field-adjustable circuit breakers for trip settings providing maximum system coordination, subsequent to installation of units.
- E. Prior to energization of overcurrent protective devices, test devices for continuity of circuitry and for short-circuits. Correct malfunctioning units.

END OF SECTION 16475

## SECTION 16530 - SITE LIGHTING

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Exterior luminaries and accessories.
- B. Poles.

#### 1.2 REFERENCES

- A. ANSI C78.379 - Electric Lamps - Incandescent and High-Intensity Discharge Reflector Lamps - Classification of Beam Patterns.
- B. ANSI C82.1 - Ballasts for Fluorescent Lamps-Specifications.
- C. ANSI C82.4 - Ballasts for High-Intensity-Discharge and Low Pressure Sodium Lamps (Multiple-Supply Type).
- D. IES RP-8 - Recommended Practice for Roadway Lighting.
- E. IES RP-20 - Lighting for Parking Facilities.
- F. ANSI/NFPA 70 - National Electrical Code.

#### 1.3 SUBMITTALS FOR REVIEW

- A. Shop Drawings: Indicate dimensions and components for each Luminaire which is not a standard Product of the manufacturer.
- B. Product Data: Provide dimensions, ratings, and performance data.

#### 1.4 SUBMITTALS FOR INFORMATION

- A. Test Reports: Indicate measured illumination levels.
- B. Submit manufacturer's installation instructions. Indicate application conditions and limitations of use stipulated by Product testing agency specified under Regulatory Requirements. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of Product.

## 1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.

## 1.6 REGULATORY REQUIREMENTS

- A. Conform to requirements of ANSI/NFPA 70.
- B. Products: Listed and classified by Underwriters Laboratories, Inc. as suitable for the purpose specified and indicated.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Material and Equipment: Transport, handle, store, and protect products.

## 1.8 COORDINATION

- A. Furnish bolt templates and pole mounting accessories to installer of pole foundations.

## 2PART 2 PRODUCTS

### 2.1 LUMINAIRES AND ACCESSORIES

- A. Provide Products as scheduled. Equals by Lithonia, Quality, and Holophane.
- B. Other Substitutions: Overnight submittal to Engineer, at least seven days before bid date for written approval for substitutions.

## 3PART 3 EXECUTION

### 3.1 INSTALLATION

- A. Provide concrete bases for lighting poles.
- B. Install poles plumb. Provide double nuts to adjust plumb. Grout around each base.
- C. Install lamps in each Luminaire.
- D. Bond luminaries ,metal accessories and metal poles to branch circuit equipment grounding conductor. Provide supplementary grounding electrode at each pole.

### 3.2 FIELD QUALITY CONTROL

- A. Operate each Luminaire after installation and connection. Inspect for improper connections and operation.

- B. Measure illumination levels to verify conformance with performance requirements.
- C. Take measurements during night sky, without moon or with heavy overcast clouds effectively obscuring moon.

### 3.3 ADJUSTING

- A. Aim and adjust luminaries to provide illumination levels and distribution as directed.

### 3.4 CLEANING

- A. Clean electrical parts to remove conductive and deleterious materials.
- B. Remove dirt and debris from enclosure.
- C. Clean photometric control surfaces as recommended by manufacturer.
- D. Clean finishes and touch up damage.

### 3.5 PROTECTION OF FINISHED WORK

- A. Relamp luminaries which have failed lamps at Substantial Completion.

END OF SECTION 16530

APPENDIX A

**LFUCG STANDARD DRAWINGS**

Isaac Murphy Memorial Art Garden Trailhead - LFUCG  
Lexington, Kentucky

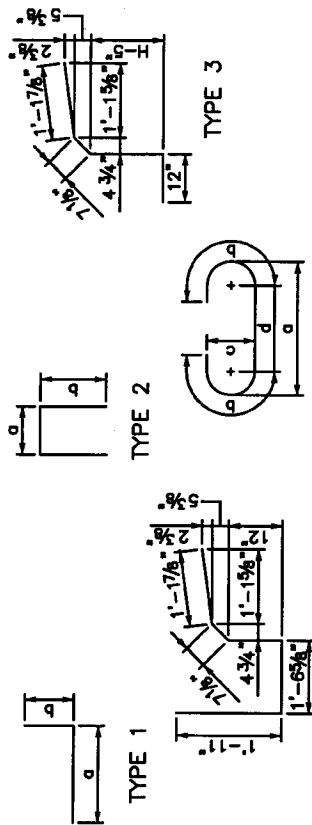
May 2014

# BILL OF REINFORCEMENT

MARK	TYPE	SIZE	Q	LENGTH		LOCATION		a	b	c	d
				FT.	IN.	FT.	IN.				
A1	STR	#5	10	4	2	FOOTING					
A2	1	#5	10	H+(1'-10")		CHAMBER WALLS	1	0	H+10"		
A3	1	#5	2	H-4"		CHAMBER WALLS	1	0	H-(1'-4")		
A4	3	#5	4	H+(2'-4")		CHAMBER FRONT WALL					
A5	STR	#5	15*	3	8	CHAMBER WALLS					
A6	STR	#5	2	2	2	CHAMBER ABOVE THROAT					
A7	1	#5	19*	2	8	CORNERS	1	4	1	4	
A8	1	#5	4	2	1	CHAMBER WALLS & TOP	1	4	0	9	
A9	STR	#5	8	10	8	TOP SLAB & APRON					
A10	STR	#5	4	7	2	THROAT					
A11	2	#5	2	4	8	THROAT	2	1 1/2	1	4	
A12	4	#5	14	6	1	THROAT & APRON					
A13	1	#5	14	3	5	THROAT	1	11	1	6	
A14	5	#3	14	1	11	TOP SLAB	0	11 1/2	0	7	0
A15	2	#5	1	4	2	END THROAT	1	6	1	4	8 1/2

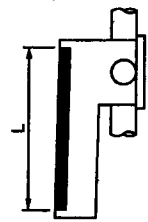
\* NO. OF BARS REQUIRED FOR H=4'-0"  
 ADD OR DEDUCT 4-A5 & 4-A7 FOR EACH 1'-0" INCREASE OR DECREASE IN H.

## BAR TYPES

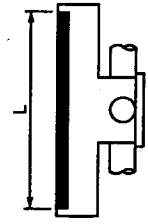


## NOTES:

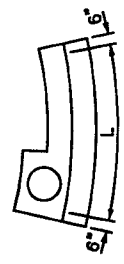
1. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. STEEL REINFORCEMENT SHALL BE ASTM A-615, GRADE 60. ALL EXPOSED EDGES SHALL BE BEVELED 3/4" UNLESS OTHERWISE SHOWN.
2. THIS DRAWING DEPICTS A CURB BOX INLET IN A GRADE SITUATION. FOR CURB BOX IN SAG SITUATION, DETAILS SHALL BE MODIFIED AS INDICATED IN DETAIL 'A'.
3. THE STANDARD OPENING LENGTH IS 10'-0" AS DETAILED HERE. THIS LENGTH MAY BE INCREASED OR DECREASED BASED ON HYDRAULIC ANALYSIS AND APPROVAL BY THE LEXINGTON-FAYETTE COUNTY URBAN GOVERNMENT ENGINEER. MODIFICATION TO THE OPENING LENGTH WILL REQUIRE MODIFICATION OF LENGTH OF BARS A9 & A10 AND INCREASE OR DECREASE IN NUMBER OF BARS A12, A13 & A14 MAINTAINING THE SAME MAXIMUM SPACING SHOWN ON THIS DRAWING.
4. MAXIMUM "H" FOR APPLICATION OF THIS DRAWING SHALL BE 10 FEET.
5. FIELD BEND OR CUT BARS A2, A4, AND A5 AS NECESSARY WHERE PIPES PENETRATE CHAMBER WALLS.
6. FOR CURB BOX INLET IN CURVE WITH CURB RADIUS OF LESS THAN 25', LONGITUDINAL BARS A9, A10 SHALL BE SHOP FABRICATED RADIALLY.



GRADE

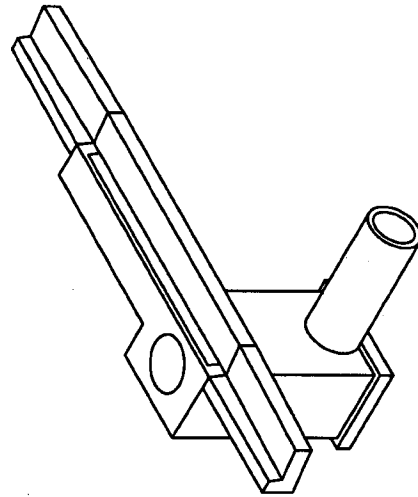


SAG



CURVE LENGTH

DETAIL 'A'  
 APPLICABLE SITUATIONS



ISOMETRIC VIEW

WORK THIS DWG. WITH STD. DWG. 122-1

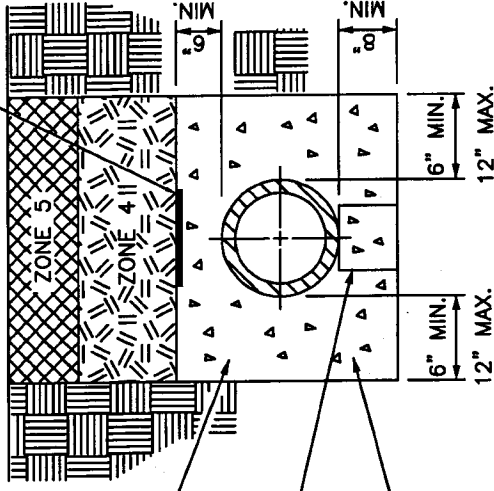
NO.	DATE	REVISION DESCRIPTION	BY

DIVISION OF ENGINEERING

CURB BOX INLET TYPE "A"  
 4'X4' BOX  
 15'-18" PIPES

STANDARD DRAWING NO.	122-2
APPROVED	5/1/08
DESIGNED	5/1/08
CHECKED	5/1/08
DATE	

MAGNETIC MARKER TAPE

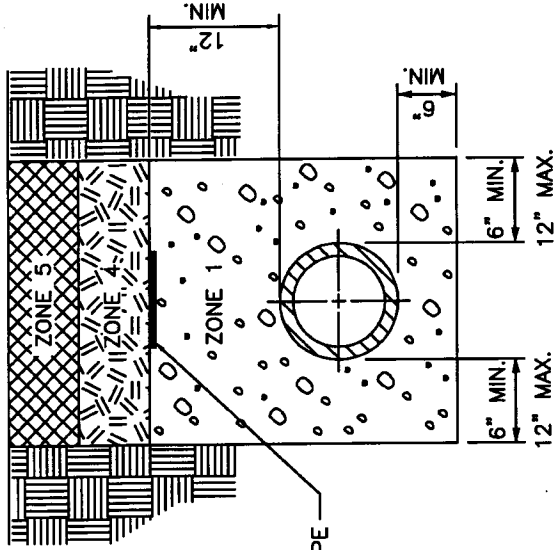


CONTRACTOR TO PROVIDE ADEQUATE MEANS TO PREVENT FLOATING OF PIPE WHEN INSTALLING CRADLE

PRECAST CONCRETE BLOCK OR BRICK BEHIND EACH BELL NOT TO EXCEED 6" SPACING

CONCRETE CLASS "A"

STANDARD CONCRETE ENCASEMENT  
(NOTE: AS REQUIRED BY DESIGN)



MAGNETIC MARKER TAPE

PIPE LAID IN ROCK  
OR SOIL TRENCH

PIPE BACKFILL DESCRIPTIONS	
ZONE 1	NO. 9 STONE
ZONE 2	NO. 9 OR NO. 57 STONE
ZONE 3	COMPACTED DGA
ZONE 4	CONSOLIDATED SOIL (NO ROCK GREATER THAN 6" DIA METER), NO. 9, OR NO. 57 STONE
ZONE 5	12" MAX. TOPSOIL, NO ROCK ALLOWED

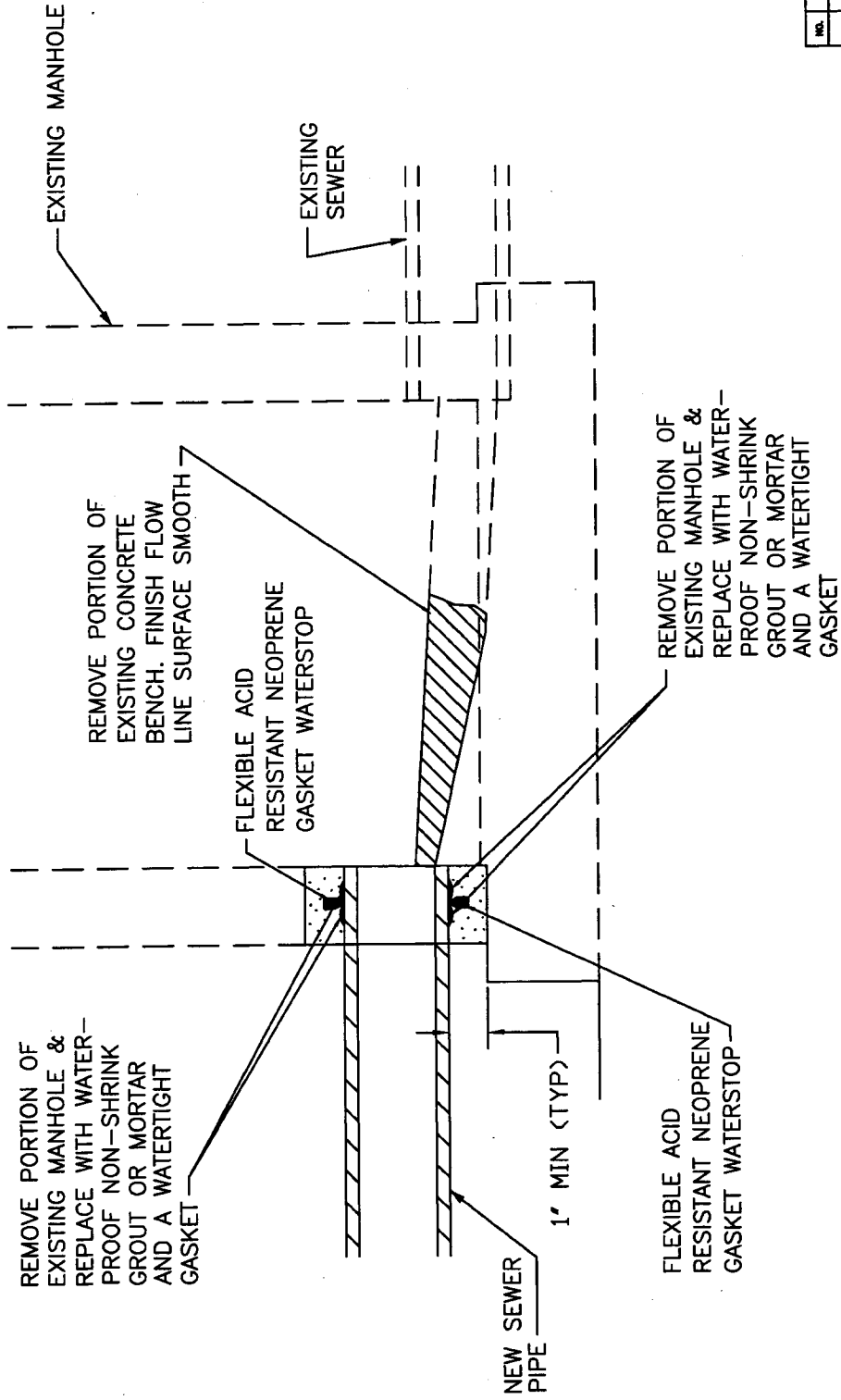
NOTES:

1. COVER, UP TO AND INCLUDING ZONE 4 SHALL BE ESTABLISHED BEFORE TRENCH EXCAVATION.
2. ALL SANITARY SEWER LINES CONSTRUCTED FROM NON-METALLIC MATERIALS SHALL HAVE MAGNETIC MARKER TAPE INSTALLED IN THE TRENCH ABOVE THE SANITARY SEWER LINE.
3. MAGNETIC MARKER TAPE FOR SANITARY SEWER ONLY.

NO.	DATE	REVISION DESCRIPTION	BY
DIVISION OF ENGINEERING			
TRENCHING, LAYING, BACKFILLING AND BEDDING OUTSIDE R/W LIMITS			
STANDARD DRAWING NO.	200		
APPROVED	<i>[Signature]</i>	DATE	5/1/08



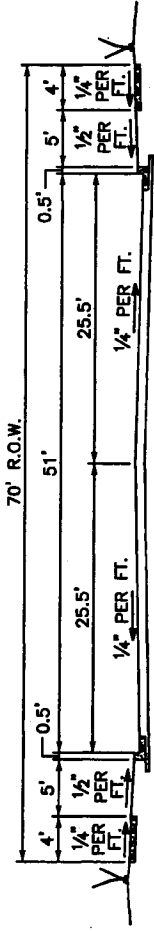




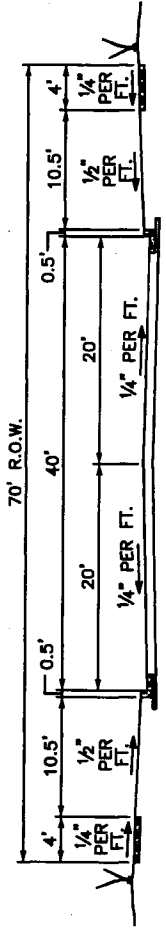
ALL HOLES CUT INTO SEWER MANHOLES SHALL BE CORE DRILLED.

SEWER CONNECTION TO EXISTING MANHOLE

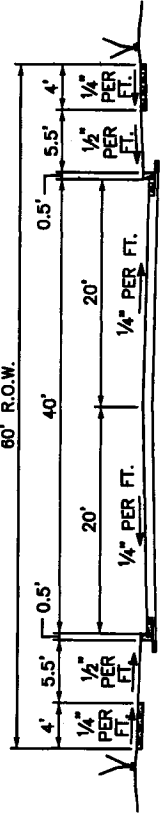
NO.	DATE	REVISION DESCRIPTION	BY
DIVISION OF ENGINEERING			
SEWER CONNECTION TO EXISTING CONCRETE MANHOLE			
STANDARD DRAWING NO. 260		DATE 5/1/02	
APPROVED <i>[Signature]</i>		DATE	
URBAN COUNTY ENGINEER		DATE	
COMMISSIONER		DATE	



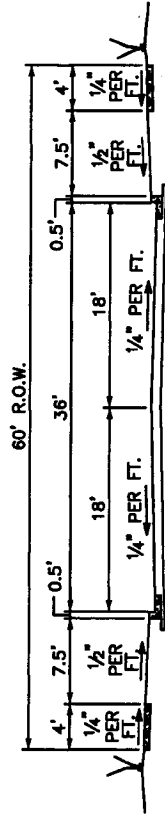
NON-RESIDENTIAL COLLECTOR



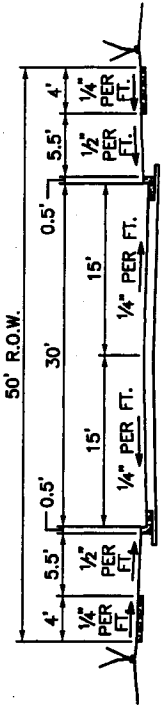
NON-RESIDENTIAL AND INDUSTRIAL COLLECTORS



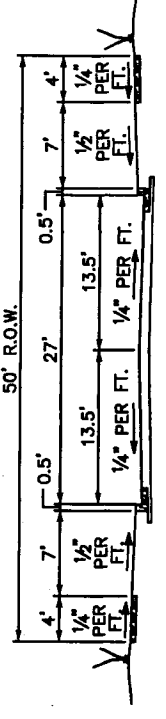
RESIDENTIAL COLLECTOR AND INDUSTRIAL LOCALS



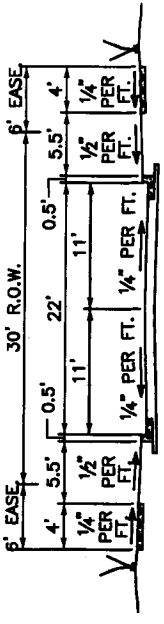
RESIDENTIAL COLLECTOR  
(OBSOLETE) - USED TO COMPLETE EXISTING STREETS



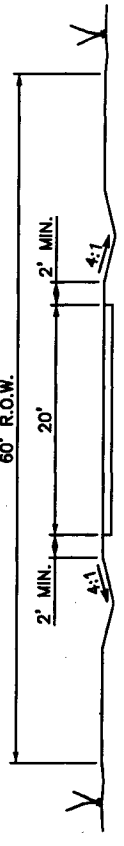
RESIDENTIAL LOCAL



RESIDENTIAL CUL-DE-SAC



URBAN RESIDENTIAL LOCAL



RURAL RESIDENTIAL LOCAL

- NOTES:
1. SLOPES AND DRAINAGE DITCHES OUTSIDE THE R.O.W. SHALL BE APPROVED BY THE ENGINEER.
  2. THE APPLICATIONS AND USES OF THE ABOVE TYPICAL SECTIONS SHALL BE IN ACCORDANCE WITH THE L.F.U.C.G. LAND SUBMISSION REGULATIONS, ARTICLE 6.

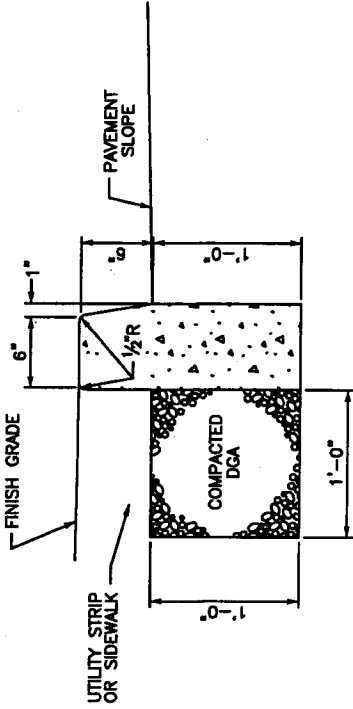
NO.	DATE	REVISION DESCRIPTION	BY

DIVISION OF ENGINEERING

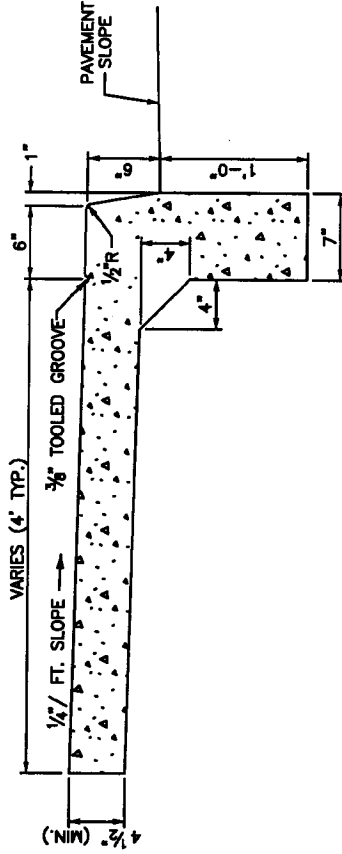
TYPICAL STREET SECTIONS

DRAWING NUMBER NO. 300  
 APPROVED: *[Signature]* 5/1/09  
 URBAN COUNTY COMMISSIONER  
 DATE: *[Signature]*  
 DATE:

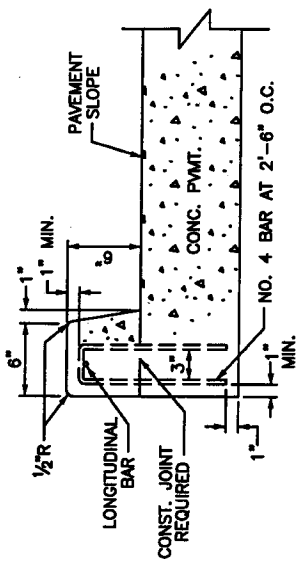




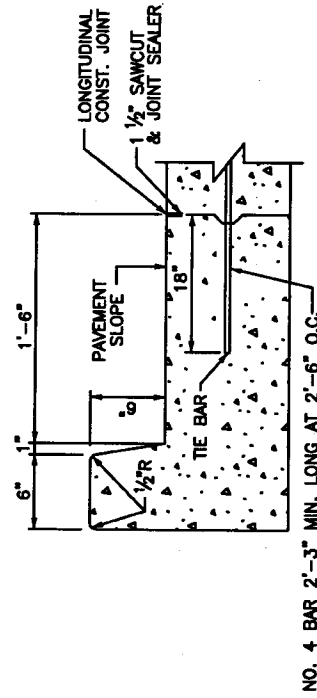
HEADER CURB



MONOLITHIC CURB AND SIDEWALK



INTEGRAL CURB, TYPE 1

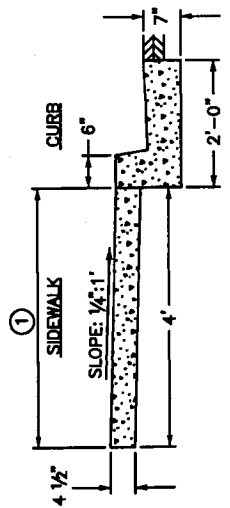


INTEGRAL CURB, TYPE 2

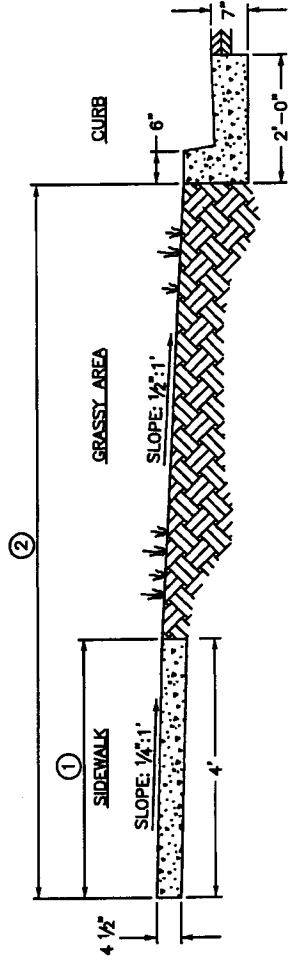
NOTES:

1. CONCRETE SHALL BE KDOT CLASS "A".
2. SAWED CONTRACTION JOINTS SHALL BE CONSTRUCTED EVERY 20 FEET, 3" MINIMUM DEPTH.
3. THE CONTRACTOR HAS THE OPTION OF CONSTRUCTING THE STANDARD INTEGRAL CURB AS DETAILED IN EITHER TYPE 1 OR 2. IF TYPE 2 IS CHOSEN A LONGITUDINAL CONSTRUCTION JOINT SHALL BE REQUIRED AND THE REMAINING PAVEMENT AND CURB SHALL BE CONSTRUCTED MONOLITHIC WITHOUT A HORIZONTAL CONSTRUCTION JOINT AND ACCOMPANYING REINFORCING STEEL (TYPE 1).
4. EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL BREAKS IN ALIGNMENT, AT ALL DRAINAGE INLETS AND AT THE BEGINNING AND ENDING POINTS OF CURVES.
5. ALL CONCRETE, EXCEPT BONDING SURFACES, SHALL BE CURED WITH WHITE PIGMENTED MEMBRANE FORMING COMPOUND (AASHTO M 148, TYPE 2).

NO.	DATE	REVISION DESCRIPTION	BY
DIVISION OF ENGINEERING			
INTEGRAL CURB, HEADER CURB, MONOLITHIC CURB & SIDEWALK			
STANDARD DRAWING NO. 302		DATE 5/1/08	
APPROVED		DATE	
DESIGNED		DATE	
CHECKED		DATE	



SIDEWALK/CURB AND GUTTER



SIDEWALK/CURB AND GUTTER WITH GRASS UTILITY STRIP

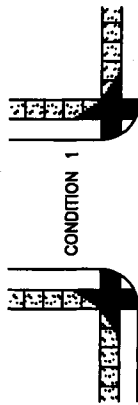
NOTES:

- CONCRETE SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED ON A THOROUGHLY COMPACTED SUB-GRADE AND SHALL BE FOUR AND ONE HALF (4 1/2) INCHES IN THICKNESS AND A MINIMUM WIDTH OF FOUR (4) FEET. CONCRETE SHALL HAVE SPECIFICATIONS FOR CLASS "A", KENTUCKY DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS, CURRENT EDITION. WHITE PIGMENTED (TYPE 2, CLASS "A" OR "B") CURING COMPOUND IS REQUIRED (ALSO KENTUCKY DEPARTMENT OF HIGHWAYS, STANDARD SPECIFICATIONS, CURRENT EDITION).
- EXPANSION JOINTS SHALL BE PLACED AT THIRTY-TWO (32) FOOT INTERVALS. IN EXISTING NEIGHBORHOODS, EXPANSION MATERIAL SHALL BE PLACED AT THE BEGINNING AND END OF NEWLY CONSTRUCTED AREAS.
- THE SIDEWALKS SHALL BE PLACED ADJACENT TO THE STREET RIGHT-OF-WAY LINE. SLOPE TOWARD CURB SHALL BE ONE QUARTER (1/4) OF AN INCH TO THE FOOT. CONSTRUCTION IN EXISTING NEIGHBORHOODS SHALL REQUIRE THE CONTRACTOR TO MATCH EXISTING GRADE AND SIDEWALK WIDTH UNLESS SPECIFIED OTHERWISE BY THE DIVISION OF ENGINEERING.

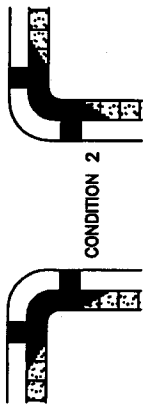
SHEET NOTES:

- NORMAL SIDEWALK WIDTH SHALL BE 4' UNLESS CHANGE IS AUTHORIZED BY URBAN COUNTY ENGINEER'S OFFICE.
- DISTANCE WILL VARY WITH ROAD CROSS-SECTION.

NO.	DATE	REVISION DESCRIPTION	BY
DIVISION OF ENGINEERING			
SIDEWALK CONSTRUCTION SPECIFICATIONS			
STANDARD DRAWING NO.			303
APPROVED			5/1/08
URBAN COUNTY ENGINEER			DATE
COMMISSIONER			DATE



CONDITION 1

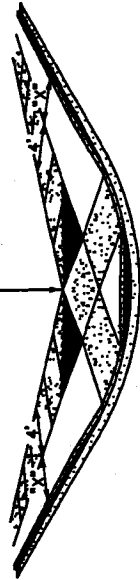


CONDITION 2

RAMP TYPE 1

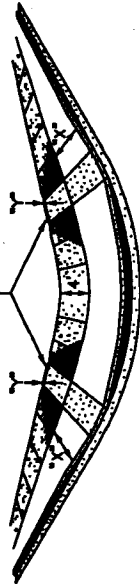
NORMAL TREATMENT FOR ARTERIALS AND SIGNALIZED INTERSECTIONS

DROP BACK OF SIDEWALK AS REQUIRED TO PROVIDE MAXIMUM 1:1 RAMP SLOPE. EXTEND RAMP WITHIN SIDEWALK AS REQUIRED. REFER TO CHART ON THIS SHEET.

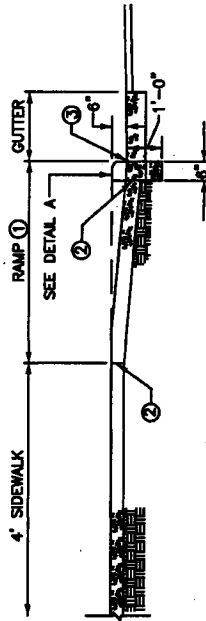


RAMP TYPE 1 CONDITION 1

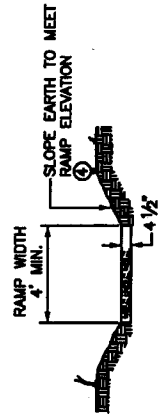
DROP BACK OF SIDEWALK AS REQUIRED TO PROVIDE MAXIMUM 1:1 RAMP SLOPE. EXTEND RAMP WITHIN SIDEWALK AS REQUIRED. REFER TO CHART ON THIS SHEET.



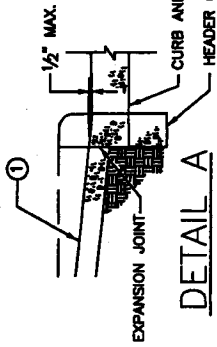
RAMP TYPE 1 CONDITION 2



PROFILE RAMP TYPE 1



CROSS SECTION RAMP TYPE 1



DETAIL A

NOTE:  
FOR USE WITH 6" HEADER CURB OR 6" CURB AND GUTTER

UTILITY STRIP WIDTH ①	BACK OF 4' SIDEWALK DROP FROM NORMAL ②
0	3"
1	2 1/2"
2	2"
3	1 1/2"
4	1"
5	1/2"
≥ 6	0

- ① 1/2:1 CROSS SLOPE
- ② 1/4:1 CROSS SLOPE
- \* WHERE ROLL CURB IS USED, 1/2" DOES NOT APPLY.

NOTES:

1. INLET LOCATIONS WILL VARY, DEPENDENT ON CROSSWALK AND RAMP LOCATION.
2. THE RAMP SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE. STEP-SAFE\* TRANSPO INDUSTRIES TILE OR ENGINEER APPROVED EQUIVALENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. THE NORMAL GUTTER LINE SHOULD BE MAINTAINED THROUGH THE RAMP.
4. RAMP'S SHOULD BE LOCATED WITHIN MARKED LIMITS OF CROSSWALKS.
5. WHERE NO CURB EXISTS, STREET EDGE SHALL BE SAW CUT, OR AS DIRECTED BY L.F.U.C.G. ENGINEER.

SHEET NOTES: ○

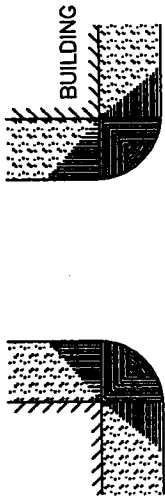
- ① MAXIMUM RAMP SLOPE 1:1.
- ② 1/2" EXPANSION JOINT AT BACK OF CURBLINE AND SIDEWALK LINE.
- ③ NO BUMP PERMITTED.
- ④ SLOPE VARIES UNIFORMLY TO A MAXIMUM OF 1:1 AT GUTTER LINE.

NO.	DATE	REVISION DESCRIPTION	BY

DIVISION OF ENGINEERING

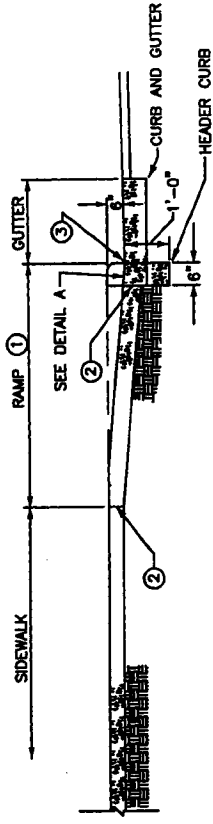
SIDEWALK  
RAMP TYPE 1

STANDARD DRAWING NO. 304  
 APPROVED BY *[Signature]* DATE 5/1/02  
 LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT  
 COMMISSIONER

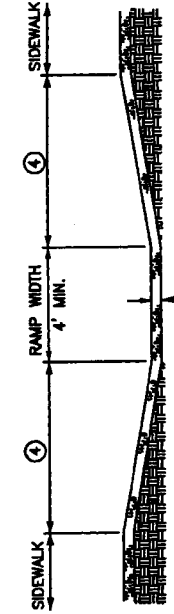


**RAMP TYPE 3**

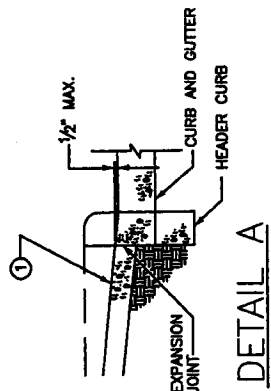
NORMAL TREATMENT FOR SIDEWALK ADJACENT TO CURB



**PROFILE RAMP TYPE 3**

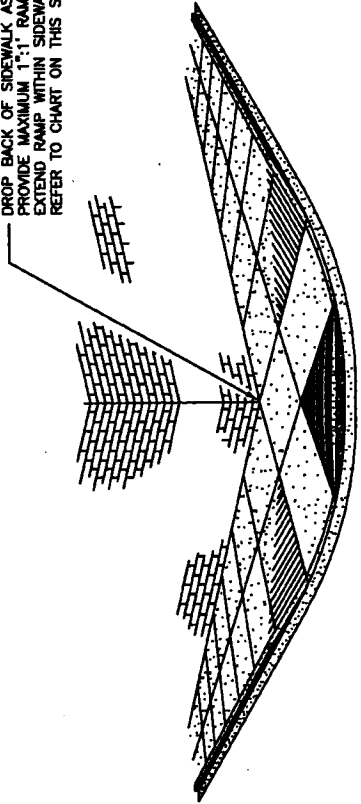


**CROSS SECTION RAMP TYPE 3**



**DETAIL A**

DROP BACK OF SIDEWALK AS REQUIRED TO PROVIDE MAXIMUM 1:1 RAMP SLOPE. EXTEND RAMP WITHIN SIDEWALK AS REQUIRED. REFER TO CHART ON THIS SHEET.



**RAMP TYPE 3**

**NOTES:**

1. INLET LOCATIONS WILL VARY, DEPENDENT ON CROSSWALK AND RAMP LOCATION.
2. THE RAMP SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE. STEP-SAFE® TRANSPO INDUSTRIES TILE OR ENGINEER APPROVED EQUIVALENT SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
3. THE NORMAL GUTTER LINE SHOULD BE MAINTAINED THROUGH THE RAMP.
4. RAMPS SHOULD BE LOCATED WITHIN MARKED LIMITS OF CROSSWALKS.

**SHEET NOTES:**

- ① MAXIMUM RAMP SLOPE 1:1.
- ② 1/2" EXPANSION JOINT AT BACK OF CURBLINE AND SIDEWALK LINE.
- ③ NO BUMPS PERMITTED.
- ④ SLOPE VARIES UNIFORMLY TO A MAXIMUM OF 1:1 AT GUTTER LINE.

NOTE: FOR USE WITH 6" HEADER CURB OR 6" CURB AND GUTTER

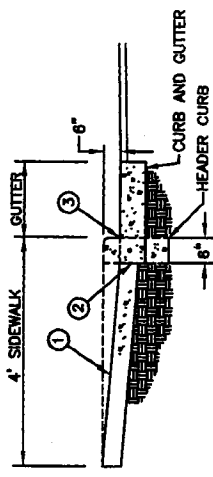
SIDEWALK WIDTH ① "X"	BACK OF SIDEWALK DROP FROM NORMAL "Y"
4'	3"
5'	2 1/4"
6'	1 1/2"
7'	3/4"
≥ 8'	0

① 1/4:1 CROSS SLOPE

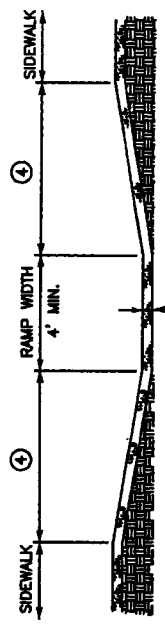
\* WHERE ROLL CURB IS USED, "Y" DOES NOT APPLY.

NO.	DATE	REVISION DESCRIPTION	BY
DIVISION OF ENGINEERING			
SIDEWALK RAMP TYPE 2			
STANDARD DRAWING NO. 305			
APPROVED:  5/1/08			
DRAWN BY:  5/1/08			
CHECKED BY:  5/1/08			
CONTRACT NO. 08-0000000000			





RAMP PROFILE



RAMP CROSS-SECTION

NOTES:

1. INLET LOCATIONS WILL VARY, DEPENDENT ON CROSSWALK AND RAMP LOCATION
2. THE RAMP SHALL BE CONSTRUCTED OF CLASS "A" CONCRETE. STEP-SAFE® TRANSPO INDUSTRIES TILE OR ENGINEERS APPROVED EQUIVALENT SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
3. THE NORMAL GUTTER LINE SHOULD BE MAINTAINED THROUGH THE RAMP.
4. RAMPS SHOULD BE LOCATED WITHIN MARKED LIMITS OF CROSSWALKS.

SHEET NOTES:

- ① MAXIMUM RAMP SLOPE 1":1'
- ② 1/2" EXPANSION JOINT AT BACK OF CURBLINE AND SIDEWALK LINE.
- ③ NO BUMP PERMITTED.
- ④ SLOPE VARIES UNIFORMLY TO A MAXIMUM OF 1":1' AT GUTTER LINE.

NO.	DATE	REVISION DESCRIPTION	BY

DIVISION OF ENGINEERING

SIDEWALK RAMP  
TYPE 3

STANDARD DRAWING NO. 306  
APPROVED: [Signature]  
DATE: 5/1/08

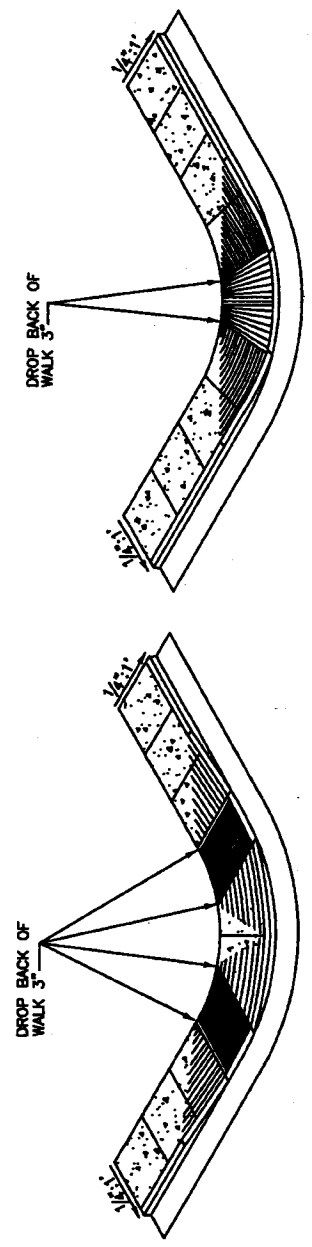


CONDITION 1



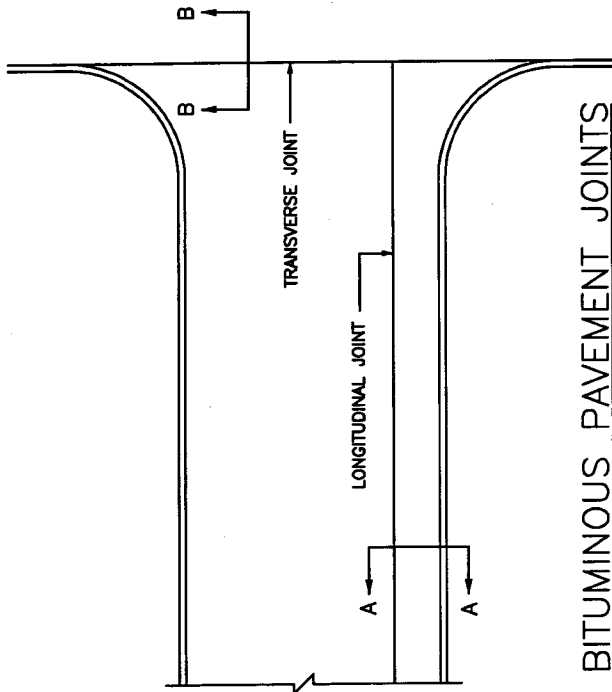
CONDITION 2

4' SIDEWALK ADJACENT TO CURB      4' SIDEWALK ADJACENT TO CURB



CONDITION 1

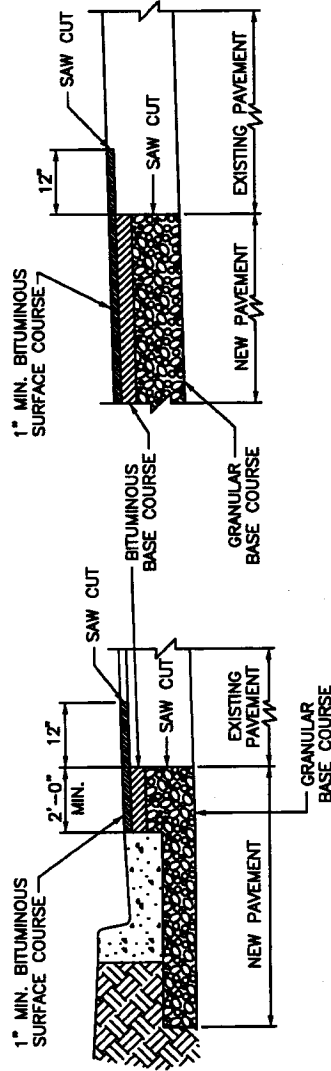
CONDITION 2



BITUMINOUS PAVEMENT JOINTS

NOTES:

1. ALL SAW-CUTS SHALL BE NEAT AND STRAIGHT.
2. IMMEDIATELY BEFORE LAYING NEW BITUMINOUS COURSES, ALL SAW CUT EDGES SHALL BE CLEANED OF DUST AND DEBRIS AND SPRAYED WITH A BITUMINOUS TACK COAT.
3. EDGE KEY SHALL NOT BE REQUIRED IF BOTH EXISTING AND NEW PAVEMENT ARE TO RECEIVE AN OVERLAY AS PART OF THIS CONTRACT.



SECTION A-A

LONGITUDINAL EDGE KEY

SECTION B-B

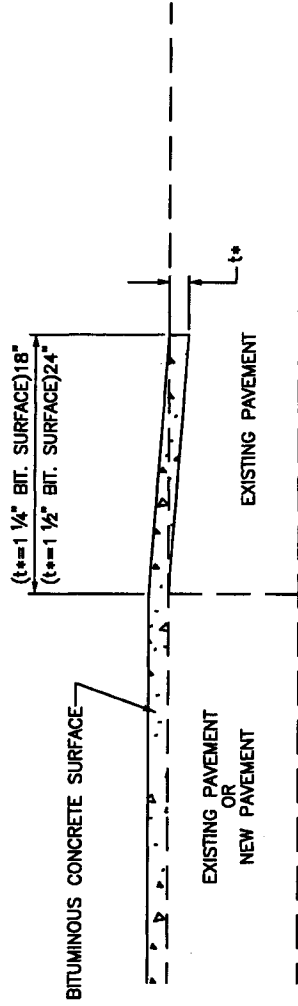
TRANSVERSE EDGE KEY

NO.	DATE	REVISION DESCRIPTION	BY

DIVISION OF ENGINEERING

EDGE KEY

STANDARD DRAWING NO.	318
DATE	5/1/68
DESIGNED BY	[Signature]
CHECKED BY	[Signature]
DATE	5/1/68



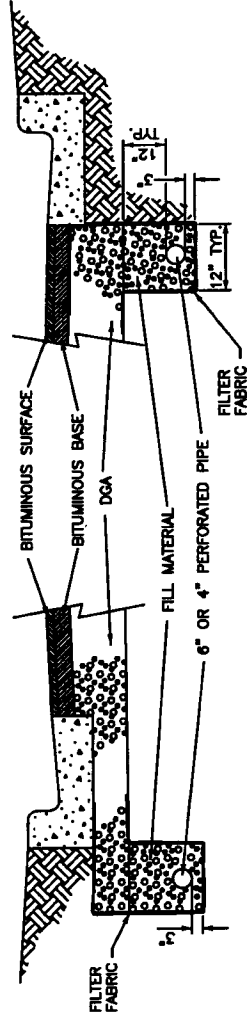
EDGE KEY

NO.	DATE	REVISION DESCRIPTION	BY
DIVISION OF ENGINEERING			
TYPICAL EDGE KEY			
FOR			
MINIMUM OVERLAYS,			
SHORT PROJECTS,			
LOW SPEED			
STANDARD DRAWING NO. 319			DATE
APPROVED BY <i>[Signature]</i>			5/1/08
DRAWN BY <i>[Signature]</i>			5/1/08
CHECKED BY <i>[Signature]</i>			5/1/08
DESIGNED BY <i>[Signature]</i>			5/1/08

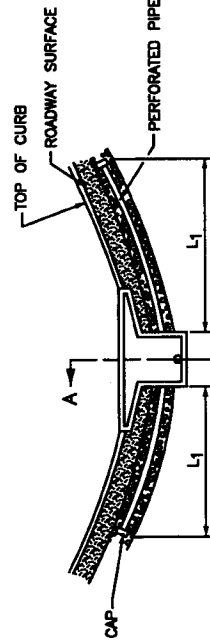
### TYPICAL SECTION

CASE 1

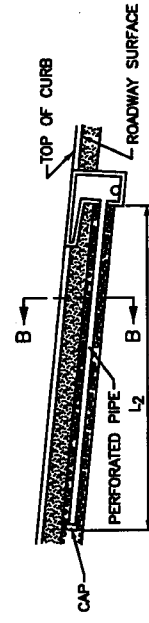
CASE 2



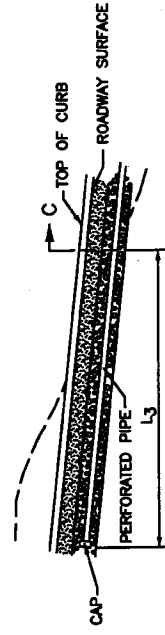
### TYPICAL SUBGRADE DRAINAGE LOCATIONS



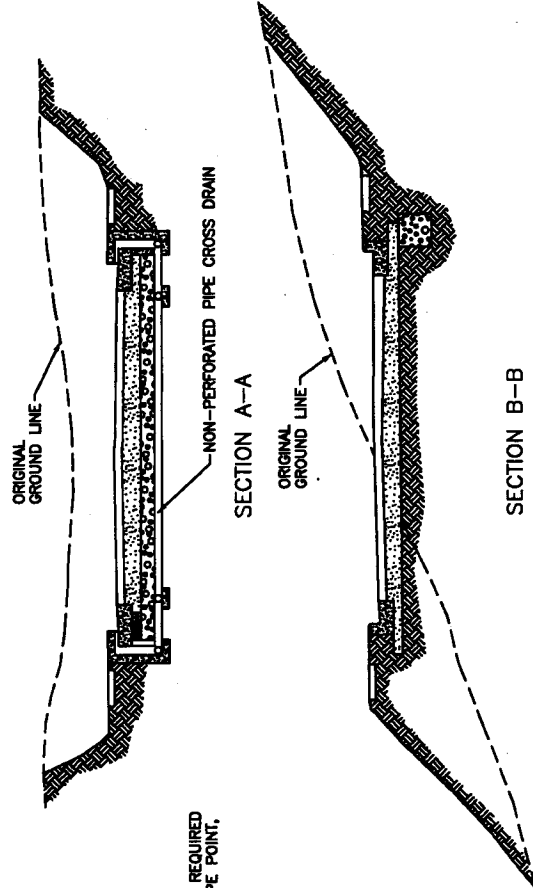
SAG VERTICAL CURVE  
 $L_1 = 25$  FT. OR THE LENGTH REQUIRED TO REACH THE 1% SLOPE POINT, WHICHEVER IS LARGER.



HILLSIDE  
 $L_2 = 50$  FT. OR THE LENGTH TO THE CREST OF THE HILL, WHICHEVER IS LARGER.



CUT TO FILL  
 $L_3 = 25$  FT. OR THE LENGTH REQUIRED TO REACH THE CREST OF THE HILL, WHICHEVER IS LARGER.



NOTES:

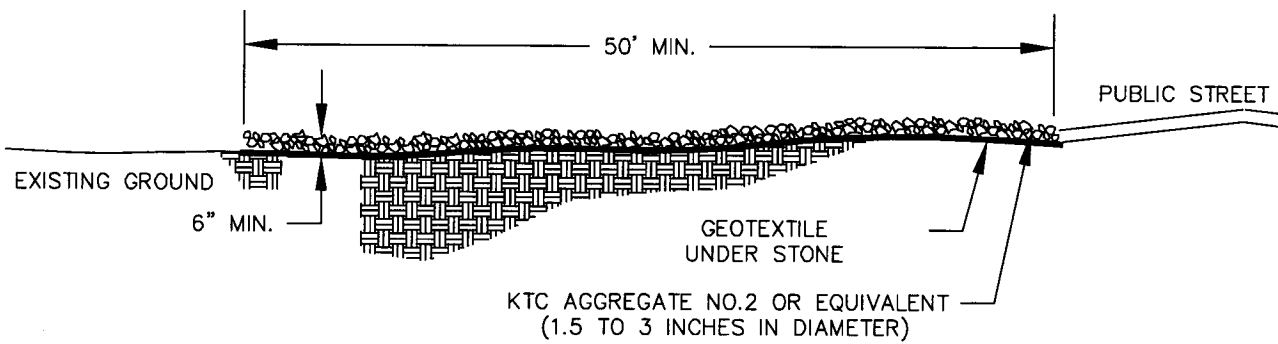
1. SUBGRADE DRAINAGE, AS DEPICTED, IS INTENDED FOR USE WITH THE SURFACING PHASE OF CONSTRUCTION, AND SHALL BE INSTALLED ONLY AFTER THE SUBGRADE HAS BEEN COMPLETED, AND PRIOR TO CONSTRUCTING PAVING MATERIALS.
2. THE CAP SHALL BE A STANDARD MANUFACTURED ITEM FURNISHED BY THE PIPE SUPPLIER.
3. TERMINATE PERFORATED PIPE IN CATCH BASIN AT AN ELEVATION WHICH PROVIDES POSITIVE DRAINAGE (MAY REQUIRE ADDITIONAL OPENING IN CATCH BASIN WALL).
4. BACKFILL TO CONSIST OF NO. 76, B, 9M COARSE AGGREGATE OR NATURAL SAND. THE FILL MATERIAL SHALL BE THOROUGHLY COMPACTED IN LAYERS NOT EXCEEDING 6 INCHES LOOSE MEASUREMENT.
5. CONNECTIONS TO DRAINAGE STRUCTURES AND PIPE TERMINI SHALL BE NON-PERFORATED PIPE MEETING THE REQUIREMENTS OF THE PERFORATED PIPE EXCEPT FOR PERFORATIONS.
6. ALL RAISED NON-PAVED MEDIANS SHALL HAVE SUBGRADE DRAINAGE ASSOCIATED WITH CURB AND GUTTER.

NO.	DATE	REVISION DESCRIPTION	BY
DIVISION OF ENGINEERING			
PERFORATED PIPE SUBGRADE DRAINAGE ALONG ROADWAY			
STANDARD DRAWING NO. 320		DATE 5/1/68	
APPROVED BY [Signature]		DATE 5/1/68	
DESIGNED BY [Signature]		DATE 5/1/68	
CHECKED BY [Signature]		DATE 5/1/68	

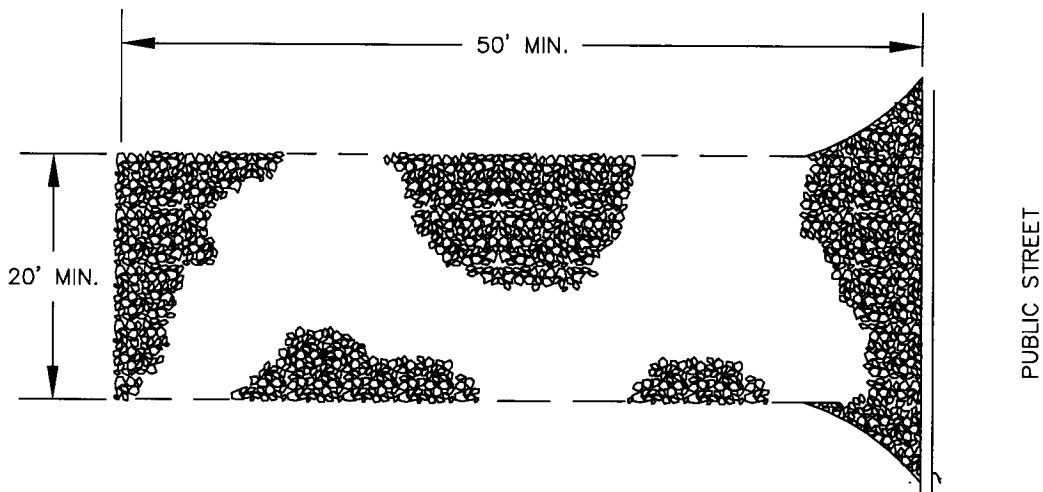


# STORMWATER MANUAL

**FIGURE 11-3**  
CONSTRUCTION ENTRANCE  
(EFFECTIVE DATE 8/29/11)



## CROSS SECTION



## PLAN VIEW



# STORMWATER MANUAL

**FIGURE 11-4**  
CONSTRUCTION ENTRANCE  
NOTES AND SPECIFICATIONS  
(EFFECTIVE DATE 8/29/11)

## SPECIFICATIONS FOR GEOTEXTILE FABRIC

GRAB TENSILE STRENGTH	220 LBS. (MIN.) (ASTM D1682)
ELONGATION FAILURE	60% (MIN.) (ASTM D1682)
MULLEN BURST STRENGTH	430 LBS. (MIN.) (ASTM D3768)
PUNCTURE STRENGTH	125 LBS. (MIN.) (ASTM D751) (MODIFIED)
EQUIVALENT OPENING	SIZE 40-80 (US STD SIEVE) (CW-02215)

### NOTES

1. A STABILIZED ENTRANCE PAD OF CRUSHED STONE SHALL BE LOCATED WHERE TRAFFIC WILL ENTER OR LEAVE THE CONSTRUCTION SITE ONTO A PUBLIC STREET.
2. SOIL STABILIZATION FABRIC SHALL BE USED AS A BASE FOR THE CONSTRUCTION ENTRANCE.
3. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC STREETS OR EXISTING PAVEMENT. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS WARRANT AND REPAIR OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT.
4. ANY SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC STREETS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
5. WHEN APPROPRIATE, WHEELS MUST BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTERING A PUBLIC STREET. WHEN WASHING IS REQUIRED, IT SHALL BE DONE IN AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN.



# STORMWATER MANUAL

## FIGURE 11-5

STAPLE PATTERN FOR STRAW  
OR EXCELSIOR MATS

(EFFECTIVE DATE 8/29/11)

### SLOPES UP TO 1.5H:1V

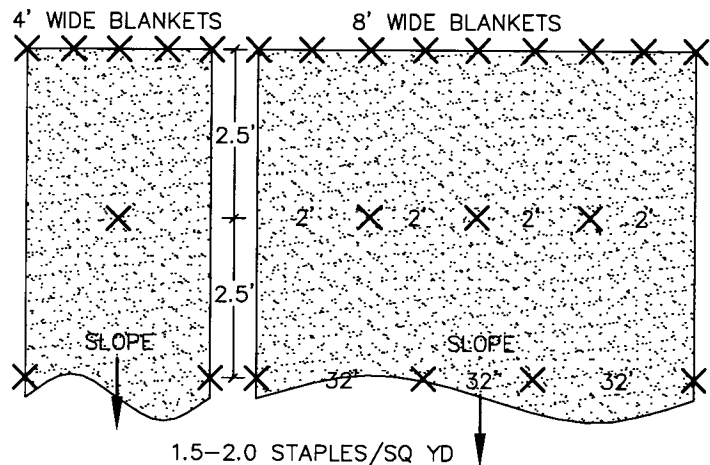
- INSTALL BLANKET VERTICALLY OR HORIZONTALLY
- USE 12" STAPLE SPACING ON STARTER ROW.

#### COHESIVE SOILS:

- NO OVERLAP REQUIRED ON SIDE SEAMS
- USE 6" STAPLE LENGTH

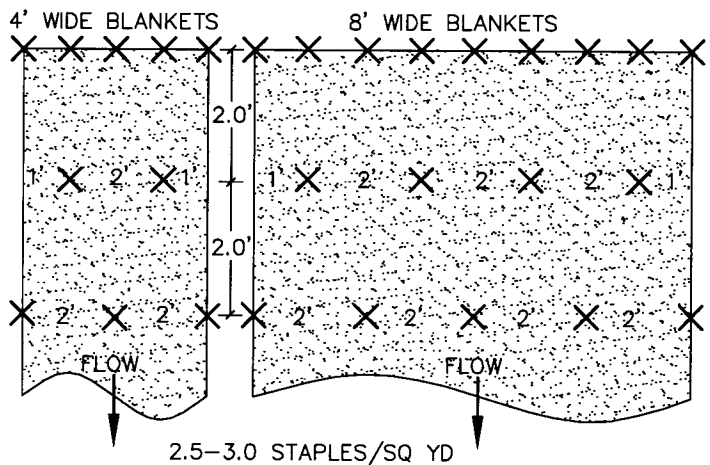
#### NON-COHESIVE SOILS:

- USE 6" SIDE SEAM OVERLAP
- USE 8" STAPLE LENGTH
- USE 6" ANCHOR TRENCH AT TOP OF SLOPE



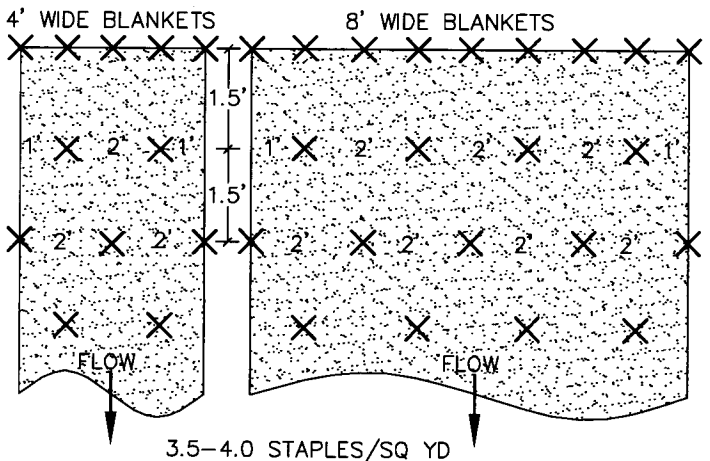
### CHANNELS IN COHESIVE SOILS

- USE 6" SIDE SEAM OVERLAP
- USE 6" STAPLE LENGTH
- USE 6" TRANSVERSE ANCHOR TRENCH AT 100-FT. INTERVALS
- USE 12" STAPLE SPACING ON STARTER ROW.
- UPSTREAM BLANKET SHOULD OVERLAP DOWNSTREAM BLANKET A DISTANCE OF 12" IN A "SHINGLE" FASHION AND BURY THE FINISHED TOE AT LEAST 6".



### CHANNELS IN NON-COHESIVE SOILS

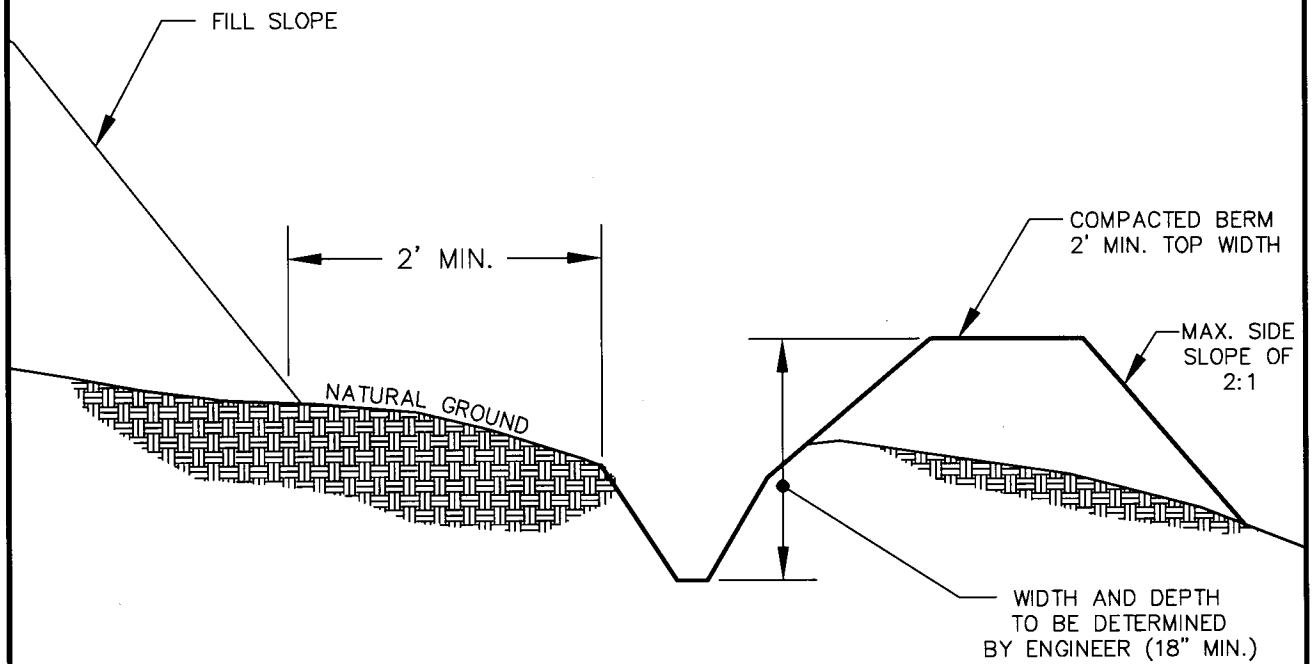
- USE 6" SIDE SEAM OVERLAP
- USE 8" STAPLE LENGTH
- USE 6" TRANSVERSE ANCHOR TRENCH AT 50-FT. INTERVALS
- USE 12" STAPLE SPACING ON STARTER ROW.
- UPSTREAM BLANKET SHOULD OVERLAP DOWNSTREAM BLANKET A DISTANCE OF 12" IN A "SHINGLE" FASHION AND BURY THE FINISHED TOE AT LEAST 6".





# STORMWATER MANUAL

**FIGURE 11-12**  
TEMPORARY DIVERSION DITCH  
(EFFECTIVE DATE 8/29/11)





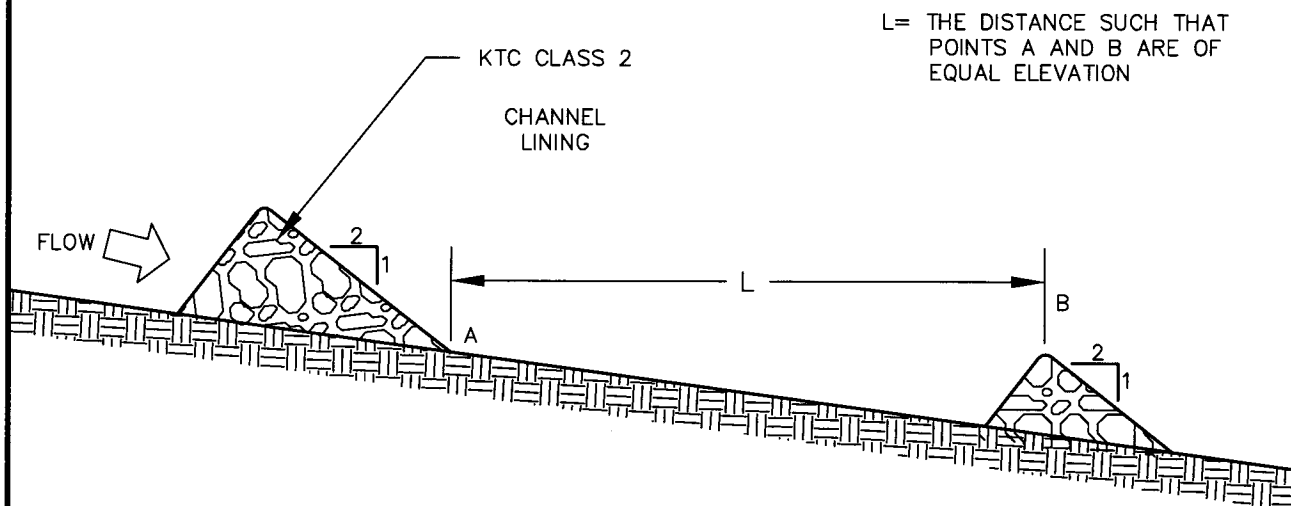


# STORMWATER MANUAL

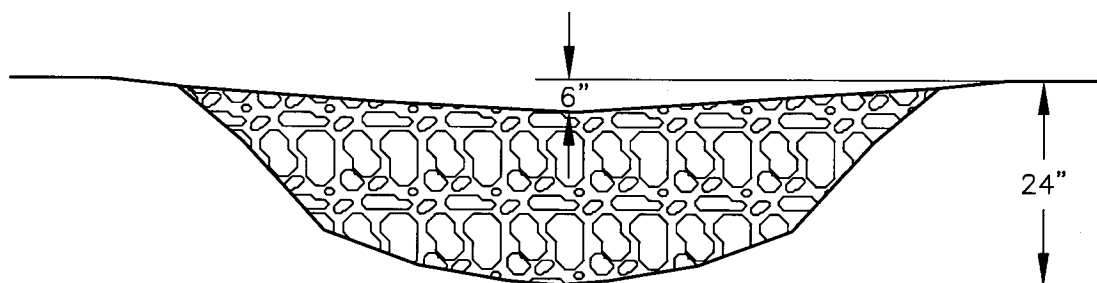
## FIGURE 11-16

ROCK CHECK DAM

(EFFECTIVE DATE 8/29/11)



LONGITUDINAL SECTION SHOWING  
SPACING BETWEEN CHECK DAMS



SECTION ACROSS CHANNEL

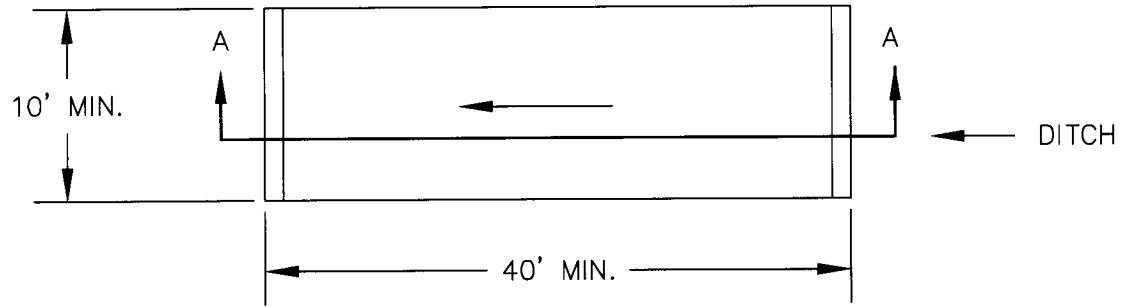


# STORMWATER MANUAL

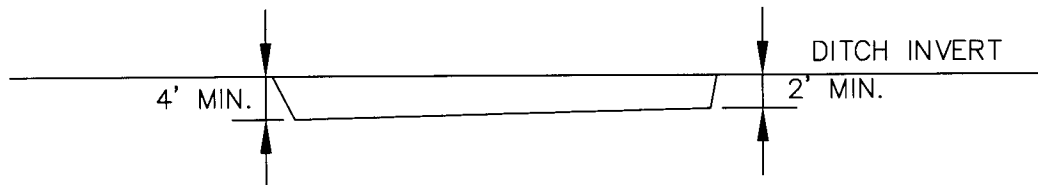
## FIGURE 11-18

### SEDIMENT TRAP

(EFFECTIVE DATE 8/29/11)



PLAN VIEW



SECTION A-A

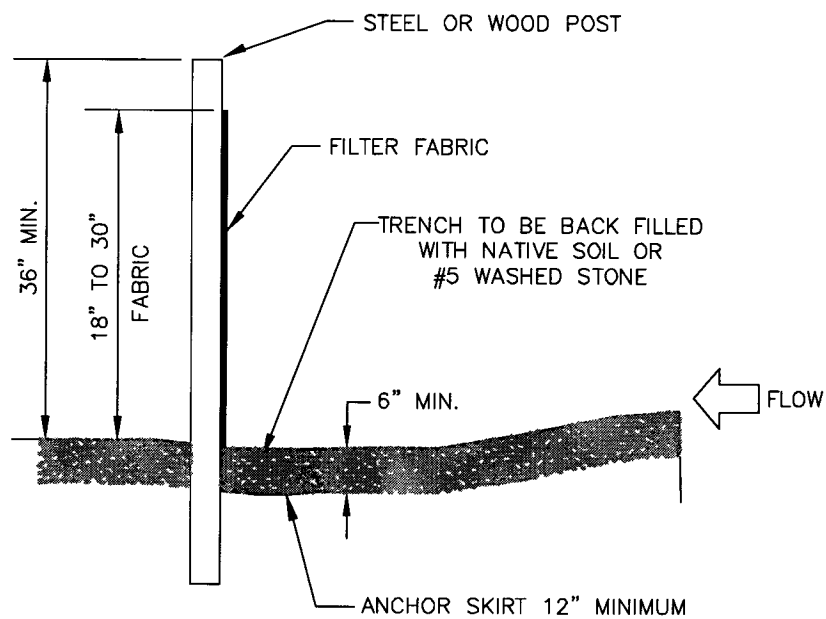
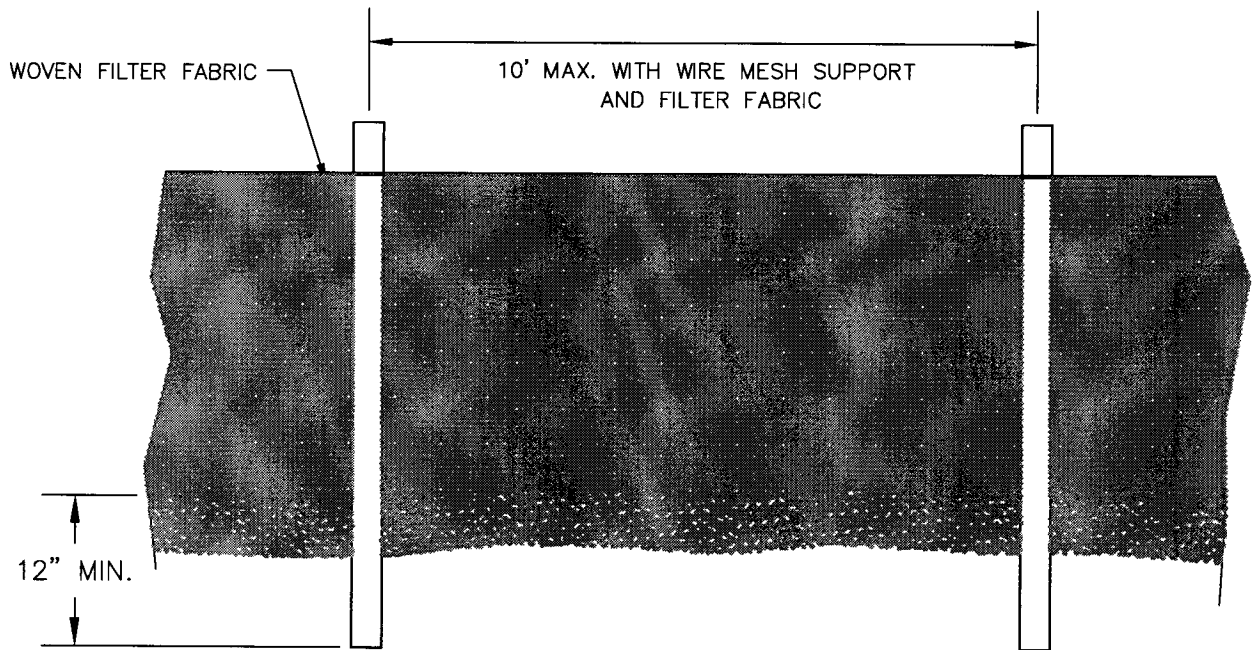
#### NOTES:

- 1) THE SIZE, SHAPE AND LOCATION OF TRAP MAY BE ADJUSTED FROM THAT SHOWN IN THE CONSTRUCTION PLANS, AS DIRECTED BY THE ENGINEER.
- 2) THE SEDIMENT TRAP MAY BE CONSTRUCTED AS DIRECTED BY THE ENGINEER AS LONG AS THE AREA AND DEPTH IS AT LEAST AS THAT INDICATED ON THE PLANS.
- 3) SEDIMENT TRAP SHALL BE CONSTRUCTED BY EXCAVATING THE BASIN IN NATURAL OR EXCAVATED CHANNELS. SEDIMENT DEPOSITS IN TRAP SHALL BE REMOVED EACH TIME THE TRAP IS APPROXIMATELY 50 PERCENT FILLED. WHEN THEIR USEFULNESS HAS ENDED, THE TRAPS SHALL BE REMOVED, SURPLUS MATERIAL DISPOSED OF AND THE ENTIRE DISTURBED AREA SHALL BE SEEDED AND PROTECTED, OR SODDED, AS DIRECTED. SEDIMENT TRAPS MAY REMAIN IN PLACE UPON COMPLETION OF THE PROJECT ONLY WHEN PERMITTED BY THE ENGINEER OR THE PLANS.



# STORMWATER MANUAL

**FIGURE 11-21**  
TEMPORARY SILT FENCE  
(EFFECTIVE DATE 8/29/11)





## STORMWATER MANUAL

### FIGURE 11-22

#### TEMPORARY SILT FENCE GENERAL NOTES

(EFFECTIVE DATE 8/29/11)

#### GENERAL NOTES

1. FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO THE LENGTH OF THE BARRIER. WHEN JOINTS CANNOT BE AVOIDED, FILTER FABRIC SHALL BE SPLICED TOGETHER ONLY AT A POST WITH 3 FOOT MIN. OVERLAP, AND SECURELY SEALED.
2. POSTS SHALL BE SPACED AT 6 FOOT INTERVALS IN AREAS OF RAPID RUNOFF.
3. POSTS SHALL BE AT LEAST 5 FEET IN LENGTH.
4. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE AND FABRIC.
5. WOOD POSTS SHALL BE 2 INCHES BY 2 INCHES OR EQUIVALENT. STEEL POSTS SHALL BE 1.33 LBS PER LINEAR FOOT.
6. A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH IN LENGTH, WIRE TIES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.
7. WASHED STONE SHALL BE USED TO BURY SKIRT WHEN SILT FENCE IS USED ADJACENT TO A CHANNEL, CREEK, OR POND.
8. TURN SILT FENCE UP SLOPE AT ENDS.

APPENDIX B

1. CONSTRUCTION MONITORING PLAN
2. CONSTRUCTION INSPECTION PLAN
3. KYTC TRAFFIC MANAGEMENT PLAN
4. ROCK SOUNDINGS



# Construction Monitoring Plan CMP

## 3.2.10 Quality Control-Quality Assurance

As per the KYTC Standard Specifications and the appropriate KY Methods detailed herein, the Contractor is responsible for quality control of asphalt mixtures. Quality Assurance shall be provided by the City's Representative. Quality Control-Quality Assurance for concrete mixtures shall be provided by the City's Representative. Other sampling and testing of materials, as detailed in the project specifications, the KYTC Standard Specifications, the KYTC Sampling Manual, and the KY Methods shall be coordinated between the Contractor and City's Representative as required. All materials used on the project shall meet the appropriate requirements established herein and proper documentation and certifications are to be provided by the Contractor to the City's Representative for approval prior to use of said material on the project.

### Asphalt

1. The inspector shall verify the mixture volumetrics per 4,000 tons of material that is placed for (AC) asphalt surface content and gradation.
2. The core density will be collected and tested at four randomly selected locations per 1,000 tons of material that is placed along the mainline area of roadway. Two additional samples will be taken from the joint area along the same corridor. The percent of solid density of each core will be determined.
3. Temperature reading shall be taken randomly taken at least four times for every 1,000 tons of material that is placed.
4. Emulsified asphalts should be sampled per 15,000 tons of asphalt mixture. Mixture should then be tested to ensure it meets KYTC standard specifications. If less than 1,000 tons of asphalt mixture are used on a project, no sample is required.

**Sampling Methods:** for all approved sampling methods see KYTC specifications:

Sampling Material by Random Number Sampling: See KM 64-113

Sampling Asphalt Mixtures: See KM 64-425

Method for Coring and Determining Percent of Solid Density of In-Place, Compacted, Asphalt Mixture Courses: See KM 64-442

### Concrete/Cement

1. Test the first truck load for air content test, slump test, temperature, and prepare cylinders (set of 2 for 6x12's or a set of 3 for 4x8's).
2. If a satisfactory control is established, then test will be performed for each 100 cubic yards poured daily.
3. If the initial test does not fall within specified limits, the load shall be turned away and every subsequent load will be tested until production meets the specifications.
4. For every slump and air test performed, cylinders shall be cast on all batches.
5. For pours of 15 cubic yards and less, no test will be required unless concrete quality is questionable.

**Sampling Methods:** for all approved sampling methods see KYTC specifications:

Air Content: See KM 64-303

Slump Test: See KM 64-302

Sampling Fresh Concrete: See KM 64-301

Temperature: See KM 64-318

Cylinders: See KM 64-305

**\*\* NOTE:** All tests are to be performed by certified inspector or construction coordinator. Lab test shall be performed by a prequalified State approved testing facility. All results shall be properly documented and turned in with inspectors daily inspections logs. Lab results shall be turned in with weekly or monthly report, which ever is required by the department. \*\*





## **Construction Inspection Plan**

### ***Lexington-Fayette Urban County Government Isaac Murphy Memorial Art Garden Trail Head Project***

#### **Scope of Work:**

Lexington-Fayette Urban County Government (LFUCG) will provide construction inspection throughout the project. The city will use currently employed inspectors for on-site inspection of the construction project, qualified in ACI testing, and also capable of managing the testing of materials. LFUCG requirements for a construction inspector include an associate's degree (or 60 hours of college) in land surveying, drafting, construction, civil engineering, or related field and three years of experience performing professional engineering work relative to the area of assignment.

The construction inspectors are required to have considerable knowledge of:

- materials, methods and techniques of public works construction,
- engineering principals and practices,
- processes, procedures, equipment, EPA regulations and record keeping requirements
- Surveying and drafting instruments and methods
- and mathematics including algebra, geometry and trigonometry.

Other skills related to construction are recommended. Construction inspectors are also certified by KEPSC to conduct erosion and sediment control inspections on all Capital Improvement Projects.

The actual testing of materials will be provided by the following firm:

***Consulting Services Incorporated  
250 Gold Rush Road  
Lexington, KY 40503***

The city inspector shall use inspection instruments and visual inspection to inspect the contractors work and ensure compliance with all contract provisions, including enforcement of the Kentucky Standard Specifications, Special Notes and Provisions, and the project proposal, and plans. The inspector shall keep complete and accurate daily records of all work performed, preparation of final paperwork, and the materials used in accordance with the Division of Construction Guidance Manual or KYTC current policy.

Construction Inspectors shall use procedures and methods as outlined in the LFUCG Construction Manual. Inspectors will provide daily inspections as required and will maintain records necessary to insure an acceptable project.

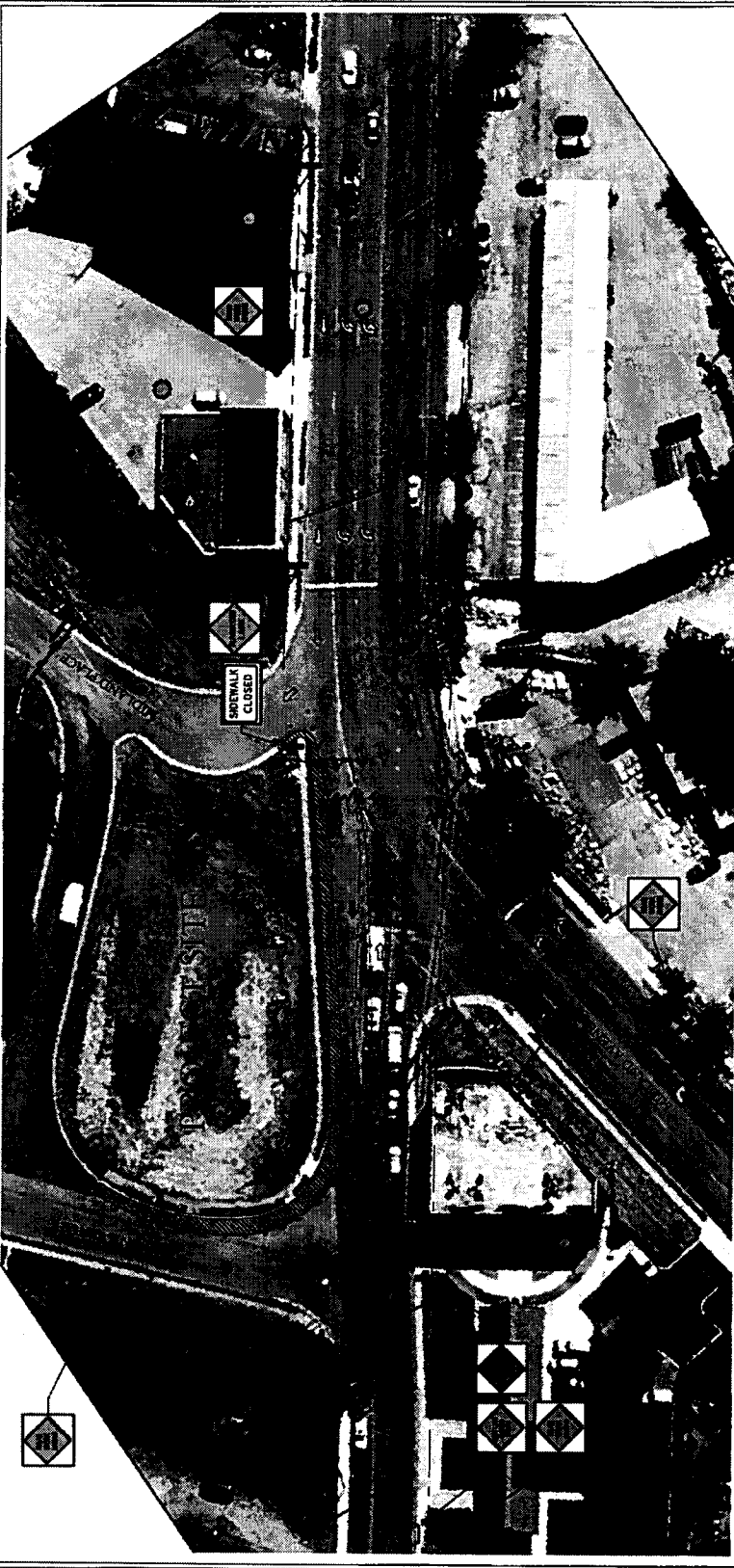
**Special Instructions:**

The city inspector will provide daily inspections as required to review demolition, excavations, and installation of formwork for preparation of the sidewalk construction. Additionally, records will be kept to identify temperature, weather conditions, crews provided by the contractor, as well as equipment.

The city inspector will supervise the testing firm providing testing of the concrete poured for sidewalk installation for every 100 yards of concrete poured, and at a minimum once daily when pouring concrete. Slump and air testing will be provided, along with storing of 4-concrete cylinders to determine 7-day and 28-day compressive strengths. Testing of cylinders will be provided at the testing lab at random to determine if compressive strengths are acceptable by the firm listed above.

All reports of inspections and testing will be provided to LFUCG and KYTC as required. Additionally, a *Final Completion Inspection* will be coordinated with KYTC District 7 personnel.

TMP



ISAC MURPHY  
MEMORIAL ART GARDEN  
TRAIL HEAD DESIGN

LENGTON FAYETTE URBAN COUNTY GOVERNMENT  
181 EAST THIRD STREET  
LENGTON, KENTUCKY 40367

DATE:	07-20-15
DESIGNED BY:	ISAC MURPHY
CHECKED BY:	ISAC MURPHY
IN CHARGE:	ISAC MURPHY
PROJECT NO.:	07-0165
PROJECT NAME:	MEMORIAL ART GARDEN TRAIL HEAD DESIGN



ISAC MURPHY  
MEMORIAL ART GARDEN TRAIL HEAD DESIGN  
TRAFFIC MANAGEMENT PLAN  
07-0165  
T.M.P.  
7-13-11

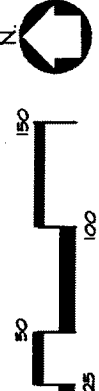
**TRAFFIC MANAGEMENT GENERAL NOTES**

1. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING, INSTALLING & MAINTAINING ALL REQUIRED TEMPORARY TRAFFIC CONTROL DEVICES INCLUDING BUT NOT LIMITED TO ELECTRONIC FLASHING LIGHTS, SIGNAGE, TRAFFIC CONES, ETC.
2. ALL TRAFFIC CONTROL DEVICES AND PROCEDURES SHALL CONFORM TO THE MOST CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
3. ANY ADDITIONAL TRAFFIC CONTROL MEASURES THAT MAY BE REQUIRED SHALL BE INSTALLED & MAINTAINED AT NO ADDITIONAL COST TO THE OWNER/CLIENT.
4. THE GENERAL CONTRACTOR SHALL COORDINATE ALL TRAFFIC CONTROL MEASURES WITH KYTC DISTRICT 7 PRIOR TO CONSTRUCTION.
5. KYTC STATE LOCAL INSTRUCTIONS MAY APPLY. COORDINATE ALL CONSTRUCTION OPERATIONS WITH KYTC DISTRICT 7.

SIGN SPACING SHALL BE 100'

**LEGEND**

- TEMPORARY TRAFFIC CONTROL SIGN LOCATION (SHOW NUMBER BEHIND)
- TEMPORARY TRAFFIC CONTROL SERVICE RESTRICTIVE TRAFFIC CONE
- TRAFFIC CONE
- EXISTING DIRECTION OF TRAFFIC FLOW
- DIRECTION OF TEMPORARY TRAFFIC FLOW
- TEMPORARY TRAFFIC CONTROL SIGN (REVERSE SIDE)
- TRAFFIC CONE
- TRAFFIC CONE
- TRAFFIC CONE
- TRAFFIC CONE



**APPROVAL**  
KENTUCKY DEPARTMENT OF TRANSPORTATION  
TRAFFIC MANAGEMENT PLAN  
07-0165  
T.M.P.  
7-13-11

**TRAFFIC MANAGEMENT PLAN**

SCALE 1"=50'

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# Consulting Services Incorporated

250 Gold Rush Road, Lexington, Kentucky 40503

September 26, 2012

Lexington Fayette Urban County Government  
101 East Vine Street, 4<sup>th</sup> Floor  
Lexington, Kentucky 40508

ATTN: Mr. Keith Lovan

Subject: **Results of Drilling Services**  
IMMAG Project  
Lexington, Kentucky  
CSI Project No. 2094

Dear Mr. Lovan:

Consulting Services Incorporated of Kentucky (CSI) has completed the soundings (borings without sampling) for the proposed IMMAG Project in Lexington, Kentucky. We understand that the proposed project will consist of an amphitheatre and its associated utility conduits. The site is presently a vacant lot bounded by Midland Place to the northeast, Nelson Avenue to the northwest and East 3<sup>rd</sup> Street to the southwest.

A total of seven soundings (S-1 through S-7) were performed at (or as close as possible to) the provided sounding locations. At sounding S-2, we encountered hard material at a depth of about 2 to 3 feet which we could not penetrate (false auger refusal). We offset this sounding a few feet and the sounding was advanced to an expected auger refusal depth. Please reference the attached Sounding Location Plan for details.

Each sounding was advanced to auger refusal, with auger refusal depths ranging between 12.1 feet (Sounding S-2) and 19.5 feet (Sounding S-3). All holes were dry upon completion of augering. Please see the attached Summary of Soundings table for our sounding results.

# Consulting Services Incorporated

250 Gold Rush Road, Lexington, Kentucky 40503



We appreciate the opportunity to provide our drilling services to you and the design team. Please do not hesitate to contact us for questions or comments about the information contained herein.

Sincerely,



Consulting Services Incorporated of Kentucky,

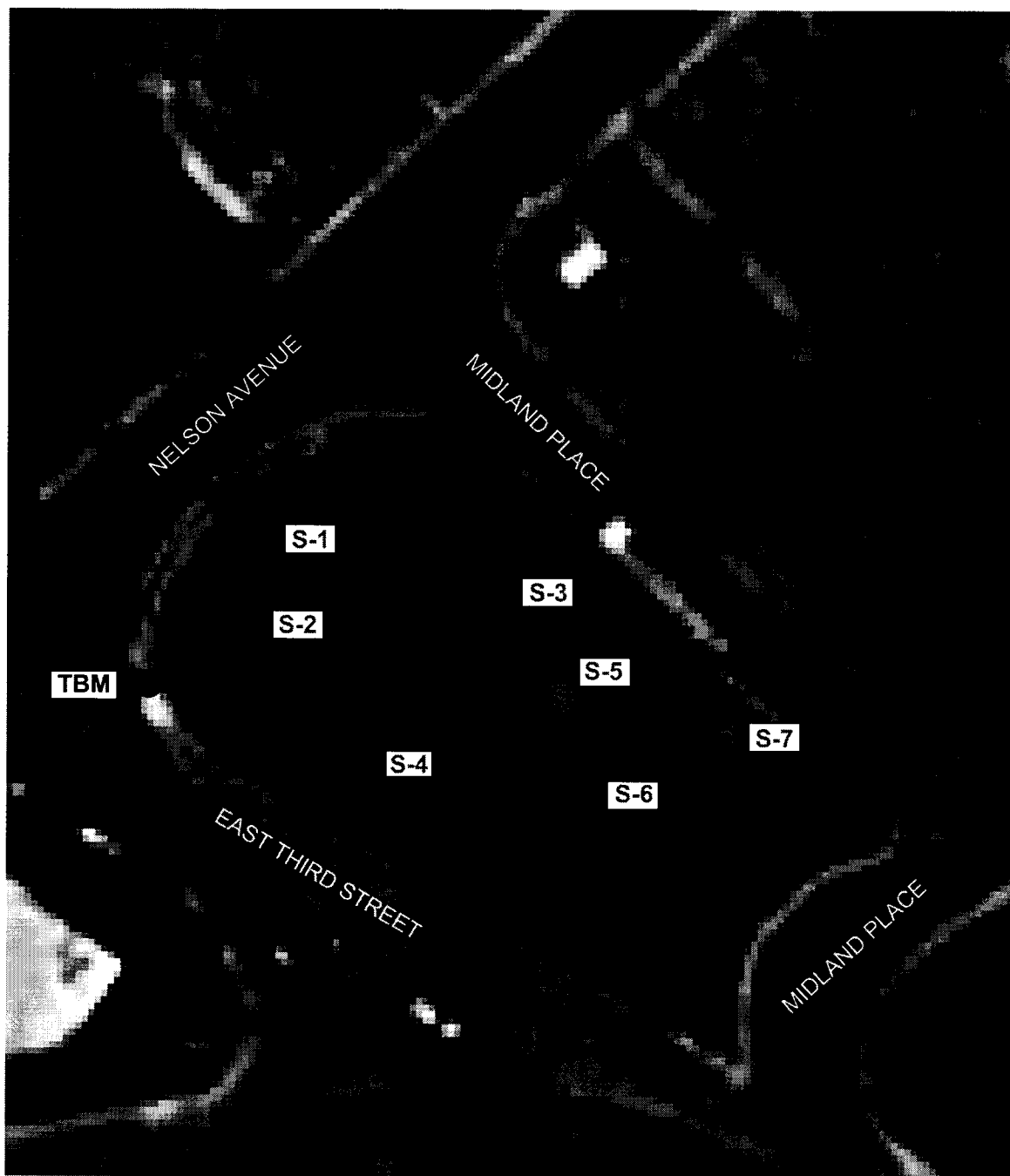
A handwritten signature in black ink, appearing to read 'Dan Homm', written over a horizontal line.

Daniel A. Homm, EIT, SI  
Staff Professional

A handwritten signature in black ink, appearing to read 'Bruce L. Hatcher', written over a horizontal line.

Bruce L. Hatcher, PE, SI  
Chief Engineer

Attachments: Sounding Location Plan  
Summary of Soundings



Sounding Location Plan adapted from Aerial Photography dated 2006, with further adaptation by CSI personnel.

Elevations based on top of sanitary sewer manhole located at west edge of site (corner of Nelson Avenue and East 3rd Street). Manhole lid elevation assumed to be 100.0 feet as a TBM (temporary benchmark).

FOR ILLUSTRATION PURPOSES ONLY

LEGEND	
⊙ S-XXX	SOUNDING LOCATIONS
● TBM	TEMPORARY BENCHMARK



Consulting Services Incorporated of Kentucky  
 250 Gold Rush Road  
 Lexington, Kentucky 40503  
 859.309.6021 Office | 888.792.3121 Fax  
 www.csikentucky.com

TITLE: SOUNDING LOCATION PLAN  
 PROJECT: IMMAG PROJECT  
 LEXINGTON, KENTUCKY

Project No: 2094	Drawn By: JAC
Date: September 26, 2012	Checked By: BLH
Scale: Not To Scale	Drawing No: 1 of 1

This drawing is being furnished for this specific project only. Any party accepting this document does so in confidence and agrees that it shall not be duplicated in whole or in part, nor disclosed to others without the consent of Consulting Services Incorporated of Kentucky.



# Consulting Services Incorporated

250 Gold Rush Road, Lexington, Kentucky 40503

## Summary of Soundings

### IMMAG Project

Lexington, Kentucky

CSI Project Number 2094

Sounding Number	Top of Hole Elevation (ft)*	Auger Refusal (AR) Depth (ft)	Auger Refusal (AR) Elevation (ft)*
S-1	103.5	12.8	90.7
S-2	102.9	12.1	90.8
S-3	104.8	19.5	85.3
S-4	102.6	12.7	89.9
S-5	103.3	14.8	88.5
S-6	102.5	15.0	87.5
S-7	102.5	15.4	87.1

\* Elevations based on top of sanitary sewer manhole located at west edge of site (corner of Nelson Avenue and East 3<sup>rd</sup> Street). Manhole lid elevation assumed to be 100.0 feet as a TBM (temporary benchmark)

APPENDIX C

**LOCAL PUBLIC AGENCIES  
SPECIAL PROVISIONS FOR LPA ADMINISTERED PROJECTS**





Office of Local Programs  
Special Provisions for LPA Administered Projects

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- All contractors must be prequalified by the Kentucky Transportation Cabinet.  
(<http://transportation.ky.gov/Contract/Pqbook.pdf>)
- The Local Public Agency (LPA) will operate in compliance with the Federal Procurement Code, including but not limited to, 23 CFR 635.112  
(<http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi>)
- This project will follow the Kentucky Standard Specifications for Road and Bridge Construction, 2008 Edition.  
(<http://transportation.ky.gov/construction/spec/spec08.htm0>)
- Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs and activities receiving Federal financial assistance. Specifically, Title VI provides that "no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." (42 U.S.C. Section 2000d). The Civil Rights Act of 1964 shall be followed in the administration of this project.
- Patented or proprietary materials are discourage but if they are specified then 23 CFR 635.411 (<http://frwebgate.access.gpo.gov/cgi-bin/get-cfr.cgi>) must be followed.
- All Change Orders must be pre-approved by the KYTC. Change order requests must be submitted to the District LPA Coordinator and the OLP Project Manager at the same time. All change order requests will be submitted on the *lpa-chord (07/2/10) form*.
- 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 an award:
  - 102.02 Current Capacity Rating
  - 102.10 Delivery of Proposals
  - 102.08 Irregular Proposals
  - 102.14 Disqualification of Bidders
  - 102.09 Proposal Guaranty

**The following laws, statutes, and regulations must be followed:**

**Federal**

- Equal Employment Opportunity Act of 1964
- Rehabilitation Act of 1973
- Age Discrimination Act of 1975
- Americans with Disabilities Act of 1987
- Civil Rights Restoration Act of 1987
- 23 USC 140 (Nondiscrimination)
- 49 CFR 21 (Civil Rights)
- 49 CFR 26 (Disadvantage Business Enterprises)
- 23 CFR 230 (External Programs)
- 23 CFR 633 (Required Contract provisions)
- 23 CFR 635 (Construction and Maintenance)
- Executive Order 11246 (Nondiscrimination)
- 23 USC 106 (Project approval and oversight)
- 23 USC 112 (Letting of contracts)
- 23 USC 113 (Prevailing rate of wage)
- 40 USC 276(a) Davis Bacon Act
- 29 CFR 1 Wage rate determinations
- 29 CFR 3 Weekly statements of payrolls
- 29 CFR 5 Wages
- 29 CFR 6 Wages
- 29 CFR 7 Wages

**State**

- KRS 45 A Model procurement code
- KRS 176 Department of Highways Procurement
- KRS 136 Corporation and utility taxes
- KRS 139 Sales and use taxes
- KRS 141 Income taxes
- KRS 337 Wage and hours (must have payment bond for wages if less than 5 years in Kentucky)
- KRS 338 OSHA
- KRS 341 Unemployment Compensation
- KRS 342 Workers compensation (must be on file with the Dept. of Workers Claims)
- KAR 603 Prequalification of contractors

**NOTICE TO ALL BIDDERS**

**TO REPORT BID RIGGING, BIDDER COLLUSION OR OTHER FRAUDULENT ACTIVITIES**

The U.S. Department of Transportation (USDOT) maintains a Hotline Complaint Center and operates a 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, DBE fraud or other fraudulent activities should use the following hotline number or address to report such activities:

**Hotline Number:**

(202) 755-1855 or 800-424-9071

**Hotline Address:**

Office of Inspector General  
P. O. Box 23178  
L'Enfant Plaza Station  
Washington, D.C. 20024-0178

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

**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

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

- I. General
- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Davis-Bacon and Related Act Provisions
- V. Contract Work Hours and Safety Standards Act Provisions
- VI. Subletting or Assigning the Contract
- VII. Safety: Accident Prevention
- VIII. False Statements Concerning Highway Projects
- IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
- X. Compliance with Governmentwide Suspension and Debarment Requirements
- XI. Certification Regarding Use of Contract Funds for Lobbying

**ATTACHMENTS**

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

**I. GENERAL**

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

**II. NONDISCRIMINATION**

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding \$10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

**1. Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

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

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

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

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

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

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

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

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

**4. Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

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

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

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

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

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

**6. Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

**7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

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

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

**8. Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar

with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

**9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

**10. Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

**11. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

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

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

### III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of \$10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

### IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding \$2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

#### 1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions

of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or



will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

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

## 2. Withholding

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

## 3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-

Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee ( e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

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

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

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

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

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

#### 4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

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

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

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly

rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

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

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

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

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

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

**5. Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

**6. Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

**7. Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

**8. Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

**9. Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

**10. Certification of eligibility.**

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

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

**V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT**

The following clauses apply to any Federal-aid construction contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

**1. Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

**2. Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

**3. Withholding for unpaid wages and liquidated damages.** The FHWA or the contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

**4. Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

## VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

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

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is

evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

## VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

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

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

## VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

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

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

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

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

Shall be fined under this title or imprisoned not more than 5 years or both."

#### **IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

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

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

#### **X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost \$25,000 or more – as defined in 2 CFR Parts 180 and 1200.

##### **1. Instructions for Certification – First Tier Participants:**

- a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this

covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

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

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

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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## **2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

### **2. Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost \$25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which

this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

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

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the \$25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (<https://www.epls.gov/>), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

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**Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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**XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING**

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

**ATTACHMENT A - EMPLOYMENT AND MATERIALS  
PREFERENCE FOR APPALACHIAN DEVELOPMENT  
HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS  
ROAD CONTRACTS**

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.



**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 workforce in each trade on all construction work in the covered areas are as follows:

<b>Timetables</b>	<b>Goals for minority participation for each trade</b>	<b>Goals for female participation in each trade</b>
	<b>10.8%</b>	<b>6.9%</b>

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 nonfederally involved construction.

The Contractor's compliance with the Executive Order and the regulations in 41 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 10 working days of award of any construction subcontract in excess of \$10,000 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:

Regional Director  
Office of Federal Contract Compliance Programs  
61 Forsyth Street, SW, Suite 7b75  
Atlanta, Georgia 30303-8609  
(404) 562-2424

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is **Lexington-Fayette Urban County, Kentucky.**

**Kentucky:**

056 Paducah, KY:  
Non-SMSA Counties 5.2  
Ballard  
Caldwell  
Calloway  
Carlisle  
Crittenden  
Fulton  
Graves  
Hickman  
Livingston  
Lyon  
McCracken  
Marshall

057 Louisville, KY:  
SMSA Counties:  
4520 Louisville, KY-IN 11.2  
Bullitt;  
Jefferson  
Oldham  
Non-SMSA Counties 9.6  
Breckinridge  
Grayson  
Hardin  
Hart  
Henry  
Larue  
Marion  
Meade  
Nelson  
Shelby  
Spencer  
Trimble  
Washington

058 Lexington, KY  
SMSA Counties  
4280 Lexington-Fayette, KY 10.8  
Bourbon  
Clark  
Fayette  
Jessamine  
Scott  
Woodford  
Non-SMSA Counties 7.0  
Adair  
Anderson  
Bath  
Boyle  
Breathitt  
Casey  
Clay  
Estill  
Franklin  
Garrard  
Green  
Harrison  
Jackson  
Knott  
Lee  
Leslie  
Letcher  
Lincoln  
Madison  
Magoffin  
Menifee  
Mercer  
Montgomery  
Morgan  
Nicholas  
Owsley  
Perry  
Powell  
Pulaski  
Rockcastle  
Russell  
Taylor  
Wolfe

Office of Federal Contract Compliance Programs (OFCCP)

**Executive Order 11246, As Amended**

— DISCLAIMER —

**Executive Order 11246 — Equal Employment Opportunity**

SOURCE: The provisions of Executive Order 11246 of Sept. 24, 1965, appear at 30 FR 12319, 12935, 3 CFR, 1964-1965 Comp., p.339, unless otherwise noted.

Under and by virtue of the authority vested in me as President of the United States by the Constitution and statutes of the United States, it is ordered as follows:

**Part I — Nondiscrimination in Government Employment**

[Part I superseded by EO 11478 of Aug. 8, 1969, 34 FR 12985, 3 CFR, 1966-1970 Comp., p. 803]

**Part II - Nondiscrimination in Employment by Government Contractors and Subcontractors**

**Subpart A - Duties of the Secretary of Labor**

**SEC. 201.** The Secretary of Labor shall be responsible for the administration and enforcement of Parts II and III of this Order. The Secretary shall adopt such rules and regulations and issue such orders as are deemed necessary and appropriate to achieve the purposes of Parts II and III of this Order.

[Sec. 201 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

**Subpart B - Contractors' Agreements**

**SEC. 202.** Except in contracts exempted in accordance with Section 204 of this Order, all Government contracting agencies shall include in every Government contract hereafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: 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. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
2. The contractor will, in all solicitations or advancements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.
3. 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 by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept. 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
7. The contractor will include the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as may be directed by the Secretary of Labor as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the contractor may request the United States to enter into such litigation to protect the interests of the United States." [Sec. 202 amended by EO 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966-1970 Comp., p. 684, EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

**SEC. 203.**

- a. Each contractor having a contract containing the provisions prescribed in Section 202 shall file, and shall cause each of his subcontractors to file, Compliance Reports with the contracting agency or the Secretary of Labor as may be directed. Compliance Reports shall be filed within such times and shall contain such information as to the practices, policies, programs, and employment policies, programs, and employment statistics of the contractor and each subcontractor, and shall be in such form, as the Secretary of Labor may prescribe.
- b. Bidders or prospective contractors or subcontractors may be required to state whether they have participated in any previous contract subject to the provisions of this Order, or any preceding similar Executive order, and in that event to submit, on behalf of themselves and their proposed subcontractors, Compliance Reports prior to or as an initial part of their bid or negotiation of a contract.
- c. Whenever the contractor or subcontractor has a collective bargaining agreement or other contract or understanding with a labor union or an agency referring workers or providing or supervising apprenticeship or training for such workers, the Compliance Report shall include such information as to such labor union's or agency's practices and policies affecting compliance as the Secretary of Labor may prescribe: Provided, That to the extent such information is within the exclusive possession of a labor union or an agency referring workers or providing or supervising apprenticeship or training and such labor union or agency shall refuse to furnish such information to the contractor, the contractor shall so certify to the Secretary of Labor as part of its Compliance Report and shall set forth what efforts he has made to obtain such information.
- d. The Secretary of Labor may direct that any bidder or prospective contractor or subcontractor shall submit, as part of his Compliance Report, a statement in writing, signed by an authorized officer or agent on behalf of any labor union or any agency referring workers or providing or supervising apprenticeship or other training, with which the bidder or prospective contractor deals, with supporting information, to the effect that the signer's practices and policies do not discriminate on the grounds of race, color, religion, sex or national origin, and that the signer either will affirmatively cooperate in the implementation of the policy and provisions of this Order or that it consents and agrees that recruitment, employment, and the terms and conditions of employment under the proposed contract shall be in accordance with the purposes and provisions of the order. In the event that the union, or the agency shall refuse to execute such a statement, the Compliance Report shall so certify and set forth what efforts have been made to secure such a statement and such additional factual material as the Secretary of Labor may require.

[Sec. 203 amended by EO 11375 of Oct. 13, 1967, 32 FR 14303, 3 CFR, 1966-1970 Comp., p. 684; EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

**SEC. 204**

- a. The Secretary of Labor may, when the Secretary deems that special circumstances in the national interest so require, exempt a contracting agency from the requirement of including any or all of the provisions of Section 202 of this **Order** in any specific contract, subcontract, or purchase **order**.
- b. The Secretary of Labor may, by rule or regulation, exempt certain classes of contracts, subcontracts, or purchase orders (1) whenever work is to be or has been performed outside the United States and no recruitment of workers within the limits of the United States is involved; (2) for standard commercial supplies or raw materials; (3) involving less than specified amounts of money or specified numbers of workers; or (4) to the extent that they involve subcontracts below a specified tier.
- c. Section 202 of this **Order** shall not apply to a Government contractor or subcontractor that is a religious corporation, association, educational institution, or society, with respect to the employment of individuals of a particular religion to perform work connected with the carrying on by such corporation, association, educational institution, or society of its activities. Such contractors and subcontractors are not exempted or excused from complying with the other requirements contained in this **Order**.
- d. The Secretary of Labor may also provide, by rule, regulation, or order, for the exemption of facilities of a contractor that are in all respects separate and distinct from activities of the contractor related to the performance of the contract: provided, that such an exemption will not interfere with or impede the effectuation of the purposes of this **Order**: and provided further, that in the absence of such an exemption all facilities shall be covered by the provisions of this **Order**."

[Sec. 204 amended by EO 13279 of Dec. 16, 2002, 67 FR 77141, 3 CFR, 2002 Comp., p. 77141 - 77144]

#### **Subpart C - Powers and Duties of the Secretary of Labor and the Contracting Agencies**

**SEC. 205.** The Secretary of Labor shall be responsible for securing compliance by all Government contractors and subcontractors with this Order and any implementing rules or regulations. All contracting agencies shall comply with the terms of this Order and any implementing rules, regulations, or orders of the Secretary of Labor. Contracting agencies shall cooperate with the Secretary of Labor and shall furnish such information and assistance as the Secretary may require.

[Sec. 205 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

#### **SEC. 206.**

- a. The Secretary of Labor may investigate the employment practices of any Government contractor or subcontractor to determine whether or not the contractual provisions specified in Section 202 of this Order have been violated. Such investigation shall be conducted in accordance with the procedures established by the Secretary of Labor.
- b. The Secretary of Labor may receive and investigate complaints by employees or prospective employees of a Government contractor or subcontractor which allege discrimination contrary to the contractual provisions specified in Section 202 of this Order.

[Sec. 206 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

**SEC. 207.** The Secretary of Labor shall use his/her best efforts, directly and through interested Federal, State, and local agencies, contractors, and all other available instrumentalities to cause any labor union engaged in work under Government contracts or any agency referring workers or providing or supervising apprenticeship or training for or in the course of such work to cooperate in the implementation of the purposes of this Order. The Secretary of Labor shall, in appropriate cases, notify the Equal Employment Opportunity Commission, the Department of Justice, or other appropriate Federal agencies whenever it has reason to believe that the practices of any such labor organization or agency violate Title VI or Title VII of the Civil Rights Act of 1964 or other provision of Federal law.

[Sec. 207 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

#### **SEC. 208.**

- a. The Secretary of Labor, or any agency, officer, or employee in the executive branch of the Government designated by rule, regulation, or order of the Secretary, may hold such hearings, public or private, as the Secretary may deem advisable for compliance, enforcement, or educational purposes.
- b. The Secretary of Labor may hold, or cause to be held, hearings in accordance with Subsection of this Section prior to imposing, ordering, or recommending the imposition of penalties and sanctions under this Order. No order for debarment of any contractor from further Government contracts under Section 209(6) shall be made without affording the contractor an opportunity for a hearing.

#### **Subpart D - Sanctions and Penalties**

**SEC. 209.** In accordance with such rules, regulations, or orders as the Secretary of Labor may issue or adopt, the Secretary may:

1. Publish, or cause to be published, the names of contractors or unions which it has concluded have complied or have failed to comply with the provisions of this Order or of the rules, regulations, and orders of the Secretary of Labor.
2. Recommend to the Department of Justice that, in cases in which there is substantial or material violation or the threat of substantial or material violation of the contractual provisions set forth in Section 202 of this Order, appropriate proceedings be brought to enforce those provisions, including the enjoining, within the limitations of applicable law, of organizations, individuals, or groups who prevent directly or indirectly, or seek to prevent directly or indirectly, compliance with the provisions of this Order.
3. Recommend to the Equal Employment Opportunity Commission or the Department of Justice that appropriate proceedings be instituted under Title VII of the Civil Rights Act of 1964.
4. Recommend to the Department of Justice that criminal proceedings be brought for the furnishing of false information to any contracting agency or to the Secretary of Labor as the case may be.
5. After consulting with the contracting agency, direct the contracting agency to cancel, terminate, suspend, or cause to be cancelled, terminated, or suspended, any contract, or any portion or portions thereof, for failure of the contractor or subcontractor to comply with equal employment opportunity provisions of the contract. Contracts may be cancelled, terminated, or suspended absolutely or continuance of contracts may be conditioned upon a program for future compliance approved by the Secretary of Labor.
6. Provide that any contracting agency shall refrain from entering into further contracts, or extensions or other modifications of existing contracts, with any noncomplying contractor, until such contractor has satisfied the Secretary of Labor that such contractor has established and will carry out personnel and employment policies in compliance with the provisions of this Order.

(b) Pursuant to rules and regulations prescribed by the Secretary of Labor, the Secretary shall make reasonable efforts, within a reasonable time limitation, to secure compliance with the contract provisions of this Order by methods of conference, conciliation, mediation, and persuasion before proceedings shall be instituted under subsection (a)(2) of this Section, or before a contract shall be cancelled or terminated in whole or in part under subsection (a)(5) of this Section.

[Sec. 209 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

**SEC. 210.** Whenever the Secretary of Labor makes a determination under Section 209, the Secretary shall promptly notify the appropriate agency. The agency shall take the action directed by the Secretary and shall report the results of the action it has taken to the Secretary of Labor within such time as the Secretary shall specify. If the contracting agency fails to take the action directed within thirty days, the Secretary may take the action directly.

[Sec. 210 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

**SEC. 211.** If the Secretary shall so direct, contracting agencies shall not enter into contracts with any bidder or prospective contractor unless the bidder or prospective contractor has satisfactorily complied with the provisions of this Order or submits a program for compliance acceptable to the Secretary of Labor.

[Sec. 211 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

**SEC. 212.** When a contract has been cancelled or terminated under Section 209(a)(5) or a contractor has been debarred from further Government contracts under Section 209(a)(6) of this Order, because of noncompliance with the contract provisions specified in Section 202 of this Order, the Secretary of Labor shall promptly notify the Comptroller General of the United States.

[Sec. 212 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

#### **Subpart E - Certificates of Merit**

**SEC. 213.** The Secretary of Labor may provide for issuance of a United States Government Certificate of Merit to employers or labor unions, or other agencies which are or may hereafter be engaged in work under Government contracts, if the Secretary is satisfied that the personnel and employment practices of the employer, or that the personnel, training, apprenticeship, membership, grievance and representation, upgrading, and other practices and policies of the labor union or other agency conform to the purposes and provisions of this Order.

**SEC. 214.** Any Certificate of Merit may at any time be suspended or revoked by the Secretary of Labor if the holder thereof, in the judgment of the Secretary, has failed to comply with the provisions of this Order.

**SEC. 215.** The Secretary of Labor may provide for the exemption of any employer, labor union, or other agency from any reporting requirements imposed under or pursuant to this Order if such employer, labor union, or other agency has been awarded a Certificate of Merit which has not been suspended or revoked.

#### **Part III - Nondiscrimination Provisions in Federally Assisted Construction Contracts**

**SEC. 301.** Each executive department and agency, which administers a program involving Federal financial assistance shall require as a condition for the approval of any grant, contract, loan, insurance, or guarantee thereunder, which may involve a construction contract, that the applicant for Federal assistance undertake and agree to incorporate, or cause to be incorporated, into all construction contracts paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to such grant, contract, loan, insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the provisions prescribed for Government contracts by Section 202 of this Order or such modification thereof, preserving in substance the contractor's obligations thereunder, as may be approved by the Secretary of Labor, together with such additional provisions as the Secretary deems appropriate to establish and protect the interest of the United States in the enforcement of those obligations. Each such applicant shall also undertake and agree (1) to assist and cooperate actively with the Secretary of Labor in obtaining the compliance of contractors and subcontractors with those contract provisions and with the rules, regulations and relevant orders of the Secretary, (2) to obtain and to furnish to the Secretary of Labor such information as the Secretary may require for the supervision of such compliance, (3) to carry out sanctions and penalties for violation of such obligations imposed upon contractors and subcontractors by the Secretary of Labor pursuant to Part II, Subpart D, of this Order, and (4) to refrain from entering into any contract subject to this Order, or extension or other modification of such a contract with a contractor debarred from Government contracts under Part II, Subpart D, of this Order.

[Sec. 301 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

#### **SEC. 302.**

- a. "Construction contract" as used in this Order means any contract for the construction, rehabilitation, alteration, conversion, extension, or repair of buildings, highways, or other improvements to real property.
- b. The provisions of Part II of this Order shall apply to such construction contracts, and for purposes of such application the administering department or agency shall be considered the contracting agency referred to therein.
- c. The term "applicant" as used in this Order means an applicant for Federal assistance or, as determined by agency regulation, other program participant, with respect to whom an application for any grant, contract, loan, insurance, or guarantee is not finally acted upon prior to the effective date of this Part, and it includes such an applicant after he/she becomes a recipient of such Federal assistance.

#### **SEC. 303.**

- a. The Secretary of Labor shall be responsible for obtaining the compliance of such applicants with their undertakings under this Order. Each administering department and agency is directed to cooperate with the Secretary of Labor and to furnish the Secretary such information and assistance as the Secretary may require in the performance of the Secretary's functions under this Order.
- b. In the event an applicant fails and refuses to comply with the applicant's undertakings pursuant to this Order, the Secretary of Labor may, after consulting with the administering department or agency, take any or all of the following actions: (1) direct any administering department or agency to cancel, terminate, or suspend in whole or in part the agreement, contract or other arrangement with such applicant with respect to which the failure or refusal occurred; (2) direct any administering department or agency to refrain from extending any further assistance to the applicant under the program with respect to which the failure or refusal occurred until satisfactory assurance of future compliance has been received by the Secretary of Labor from such applicant; and (3) refer the case to the Department of Justice or the Equal Employment Opportunity Commission for appropriate law enforcement or other proceedings.
- c. In no case shall action be taken with respect to clause (1) or (2) of subsection (b) without notice and opportunity for hearing.

[Sec. 303 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

**SEC. 304.** Any executive department or agency which imposes by rule, regulation, or order requirements of nondiscrimination in employment, other than requirements imposed pursuant to this Order, may delegate to the Secretary of Labor by agreement such responsibilities with respect to compliance standards, reports, and procedures as would tend to bring the administration of such requirements into conformity with the administration of requirements imposed under this Order: Provided, That actions to effect compliance by recipients of Federal financial assistance with requirements imposed pursuant to Title VI of the Civil Rights Act of 1964 shall be taken in conformity with the procedures and limitations prescribed in Section 602 thereof and the regulations of the administering department or agency issued thereunder.

#### **Part IV - Miscellaneous**

**SEC. 401.** The Secretary of Labor may delegate to any officer, agency, or employee in the Executive branch of the Government, any function or duty of the Secretary under Parts II and III of this Order.

[Sec. 401 amended by EO 12086 of Oct. 5, 1978, 43 FR 46501, 3 CFR, 1978 Comp., p. 230]

**SEC. 402.** The Secretary of Labor shall provide administrative support for the execution of the program known as the "Plans for Progress."

#### **SEC. 403.**

- a. Executive Orders Nos. 10590 (January 19, 1955), 10722 (August 5, 1957), 10925 (March 6, 1961), 11114 (June 22, 1963), and 11162 (July 28, 1964), are hereby superseded and the President's Committee on Equal Employment Opportunity established by Executive Order No. 10925 is hereby abolished. All records and property in the custody of the Committee shall be transferred to the Office of Personnel Management and the Secretary of Labor, as appropriate.
- b. Nothing in this Order shall be deemed to relieve any person of any obligation assumed or imposed under or pursuant to any Executive Order superseded by this Order. All rules, regulations, orders, instructions, designations, and other directives issued by the President's Committee on Equal Employment Opportunity and those issued by the heads of various departments or agencies under or pursuant to any of the Executive orders superseded by this Order, shall, to the extent that they are not inconsistent with this Order, remain in full force and effect unless and until revoked or superseded by appropriate authority. References in such directives to provisions of the superseded orders shall be deemed to be references to the comparable provisions of this Order.

[Sec. 403 amended by EO 12107 of Dec. 28, 1978, 44 FR 1055, 3 CFR, 1978 Comp., p. 264]

**SEC. 404.** The General Services Administration shall take appropriate action to revise the standard Government contract forms to accord with the provisions of this Order and of the rules and regulations of the Secretary of Labor.

**SEC. 405.** This Order shall become effective thirty days after the date of this Order.









**KENTUCKY TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS  
DIVISION OF CONSTRUCTION PROCUREMENT  
DBE Plan/SUBCONTRACT REQUEST**

TC 6.03 DBE  
Rev. 6/23/11

Contract ID (ContID) \_\_\_\_\_ Prime \_\_\_\_\_ DBE Firm \_\_\_\_\_

(\* ) When description is limited by such as "Laying Only" "Erection Only" "Manipulation Only" etc. it should be so indicated and explained.

(\*\* ) When the quantity is not the entire amount of (Contract) or (Sub-Contract) estimate, limitations by stations must be shown or definitely designated in some suitable, positive manner.

Unit prices using Contract Unit Price should be for Bid Unit Price for work to be performed by Sub Contractor. DBE Unit price should be for the agreed upon price for item or portion of item of contract work.

**DBE Participation Non-Pay Estimates Work Items**

Description	Total Contract Quantity	Unit	DBE Unit Price	Dollar Amount based on DBE Price	Comments





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KENTUCKY TRANSPORTATION CABINET  
DEPARTMENT OF HIGHWAYS  
DIVISION OF CONSTRUCTION  
SUBCONTRACT REQUEST

TC 63-35

PROJECT ID \_\_\_\_\_  
SUBCONTRACT NO: \_\_\_\_\_ Tier Y/N \_\_\_\_\_  
TO: \_\_\_\_\_  
FROM: \_\_\_\_\_  
Prime Contractor \_\_\_\_\_ KYTC Vendor Number \_\_\_\_\_  
SUBJECT: \_\_\_\_\_  
County \_\_\_\_\_ Fed/State Project Number \_\_\_\_\_

I hereby request to subcontract a portion of the subject project to:

The amount to be subcontracted by this request is \$ \_\_\_\_\_ KYTC Vendor Number \_\_\_\_\_ or \_\_\_\_\_ % of the  
(Original contract amount or subcontract amount if Tier request)  
I have previously subcontracted as follows:

NAME OF SUBCONTRACTOR	AMOUNT	PERCENT
-----------------------	--------	---------

The total amount to be subcontracted including this request is \$ \_\_\_\_\_ or \_\_\_\_\_ % of the  
(original contract) or (subcontract) amount.

This subcontractor has been furnished a copy of Appendix B of 49 CFR Part 29 and advised to include the  
Certification in all lower tier covered transactions and in all solicitations for lower tier transactions (Federal Aid  
Contracts only).

The proposed subcontractor is on the Department's list of qualified contractors to perform work requested and a  
copy of current insurance coverage will be available at the prime contractor's office before the subcontractor begins  
work on project.

\_\_\_\_\_  
Prime Contractor

\_\_\_\_\_  
Date

TC District TEBM for Construction





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**RISK MANAGEMENT PROVISIONS  
INSURANCE AND INDEMNIFICATION**

---

**1.0 DEFINITIONS.**

The CONTRACTOR understands and agrees that the Risk Management Provisions of this Contract define the responsibilities of the CONTRACTOR to the OWNER.

As used in these Risk Management Provisions, the terms "CONTRACTOR" and "OWNER" shall be defined as follows:

- a. "CONTRACTOR" means the contractor and its employees, agents, servants, owners, principals, licensees, assigns and subcontractors of any tier.
- b. "OWNER" means the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, boards, consultants, assigns, volunteers and successors in interest.

**2.0. INDEMNIFICATION AND HOLD HARMLESS PROVISION**

CONTRACTOR shall defend, indemnify, and hold harmless OWNER from and against all liability, claims, losses, actions, costs, expenses, obligations, fines, and assessments of whatever kind, including defense costs and attorney's fees, that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, in whole or in part, from or by: (a) CONTRACTOR's negligent acts or intentional misconduct, or errors or omissions, in connection with the performance of this contract, (b) CONTRACTOR's performance or breach of the contract provided the claim or loss is attributable to death, illness, personal injury, or property loss or damage or loss of use, and not caused by OWNER, or (c) the condition of any premises, equipment or other property being used or operated by the CONTRACTOR in connection with the performance of this contract. In the event OWNER is alleged to be liable based upon the actions or inactions of CONTRACTOR, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by OWNER, which approval shall not be unreasonably withheld. This Indemnification and Hold Harmless Provision shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this contract.

**3.0 FINANCIAL RESPONSIBILITY**

The CONTRACTOR understands and agrees that it shall, prior to final acceptance of its bid and the commencement of any work, demonstrate the ability to assure compliance with the Indemnity Agreement and other provisions of this Contract.

**4.0 INSURANCE REQUIREMENTS**

BIDDERS' ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AS BIDDERS MUST CONFER WITH THEIR RESPECTIVE INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF BID SUBMISSION THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF AN APPARENT LOW BIDDER FAILS TO COMPLY STRICTLY WITH THE INSURANCE REQUIREMENTS BELOW, THAT BIDDER MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

4.1 Required Insurance Coverage

CONTRACTOR shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subconsultants to maintain similar insurance with limits acceptable to OWNER in order to protect OWNER against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR. The cost of such insurance shall be included in any bid:

Coverage

Limits

General Liability (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million aggregate or \$2 million combined single limit
Commercial Automobile Liability (Insurance Services Office Form CA 0001)	combined single, \$1 million per occurrence
Worker's Compensation	Statutory
Employer's Liability	\$1,000,000.00

The policies above shall contain the following conditions:

- a. OWNER shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by OWNER.
- c. The General Liability Policy shall include a Products and Completed Operations endorsement or Premises and Operations Liability endorsement unless it is deemed not to apply by OWNER.
- d. OWNER shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- e. Said coverage shall be written by insurers acceptable to OWNER and shall be in a form acceptable to OWNER. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

4.2. Additional insurance coverage and amounts required, if any, are stated below:

NONE

4.3. Renewals

After insurance has been approved by OWNER, evidence of renewal of an expiring policy must be submitted to OWNER, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

4.4. Deductibles and Self-Insured Programs

**IF CONTRACTOR INTENDS TO SUBMIT SELF-INSURANCE PLAN FOR BID, THIS MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO BID OPENING DATE.** Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of CONTRACTOR'S financial capacity to respond to claims. Any such programs or retentions must provide OWNER with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage. If CONTRACTOR satisfies any portion of the insurance requirements through deductibles, self-insurance programs, or self-insured retentions, CONTRACTOR agrees to provide Lexington-Fayette Urban County Government, Division of Risk Management, the following data prior to the final acceptance of bid and the commencement of any work:

- a. CONTRACTOR'S latest audited financial statement, including auditor's notes.
- b. Any records of any self-insured trust fund plan or policy and related accounting statements.

- c. Actuarial funding reports or retained losses.
- d. CONTRACTOR'S Risk Management Manual or a description of CONTRACTOR'S self-insurance and risk management program.
- e. A claim loss run summary for the previous five (5) years.
- f. Self-Insured Associations will be considered.

4.5. Verification of Coverage

Prior to award of bid, CONTRACTOR agrees to furnish OWNER with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf. If requested, CONTRACTOR shall provide OWNER copies of all insurance policies, including all endorsements.

4.6. Right to Review, Audit and Inspect

CONTRACTOR understands and agrees that OWNER may review, audit and inspect any and all of CONTRACTOR'S records and operations to insure compliance with these Insurance Requirements.

**5.0 SAFETY AND LOSS CONTROL**

5.1. CONTRACTOR agrees to adhere to and comply with William-Steiger Act, enacted December 1970, and all other federal, state and local safety and environmental laws, regulations and ordinances. The CONTRACTOR shall provide all safeguards, safety devices and protective equipment, and take any other action necessary to protect the life, health and safety and property of all persons on the job site, the public and the owner.

5.2. The current Kentucky Occupational Safety and Health Standards of the Construction Industry 29 CFR Part 1926 adopted by 803 KAR 2:030 and the Kentucky Occupational Safety and Health Standard for General Industry 29 CFR Part 1910 as adopted by KAR 2:010, and as promulgated by the Kentucky Occupational Safety and Health Standards Board and as amended or modified, are hereby incorporated into and made an integral part of the Contract with full compliance the responsibility solely of the CONTRACTOR.

5.3. The CONTRACTOR understands and agrees that the OWNER shall be permitted, but not obligated, to inspect the work place, operations, machinery and equipment involved in this Contract and review and audit any and all CONTRACTOR'S records and documents as deemed necessary by the OWNER to assure compliance with any and all of the provisions of this Contract and maximize the protection of the OWNER. Safety on the job, however, remains solely the responsibility of the CONTRACTOR.

**6.0 DEFINITION OF DEFAULT**

CONTRACTOR understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default under this Contract. CONTRACTOR also agrees that OWNER may elect at its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging CONTRACTOR for any such insurance premiums purchased, or suspending or terminating this Contract.

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**635.410 Buy America requirements.**

(a) The provisions of this section shall prevail and be given precedence over any requirements of this subpart which are contrary to this section. However, nothing in this section shall be construed to be contrary to the requirements of §635.409(a) of this subpart.

(b) No Federal-aid highway construction project is to be authorized for advertisement or otherwise authorized to proceed unless at least one of the following requirements is met:

(1) The project either: (i) Includes no permanently incorporated steel or iron materials, or (ii) if steel or iron materials are to be used, all manufacturing processes, including application of a coating, for these materials must occur in the United States. Coating includes all processes which protect or enhance the value of the material to which the coating is applied.

(2) The State has standard contract provisions that require the use of domestic materials and products, including steel and iron materials, to the same or greater extent as the provisions set forth in this section.

(3) The State elects to include alternate bid provisions for foreign and domestic steel and iron materials which comply with the following requirements. Any procedure for obtaining alternate bids based on furnishing foreign steel and iron materials which is acceptable to the Division Administrator may be used. The contract provisions must (i) require all bidders to submit a bid based on furnishing domestic steel and iron materials, and (ii) clearly state that the contract will be awarded to the bidder who submits the lowest total bid based on furnishing domestic steel and iron materials unless such total bid exceeds the lowest total bid based on furnishing foreign steel and iron materials by more than 25 percent.

(4) When steel and iron materials are used in a project, the requirements of this section do not prevent a minimal use of foreign steel and iron materials, if the cost of such materials used does not exceed one-tenth of one percent (0.1 percent) of the total contract cost or \$2,500, whichever is greater. For purposes of this paragraph, the cost is that shown to be the value of the steel and iron products as they are delivered to the project.

(c) (1) A State may request a waiver of the provisions of this section if;

(i) The application of those provisions would be inconsistent with the public interest; or

(ii) Steel and iron materials/products are not produced in the United States in sufficient and reasonably available quantities which are of a satisfactory quality.

(2) A request for waiver, accompanied by supporting information, must be submitted in writing to the Regional Federal Highway Administrator (RFHWA) through the FHWA Division Administrator. A request must be submitted sufficiently in advance of the need

for the waiver in order to allow time for proper review and action on the request. The RFHWA will have approval authority on the request.

(3) Requests for waivers may be made for specific projects, or for certain materials or products in specific geographic areas, or for combinations of both, depending on the circumstances.

(4) The denial of the request by the RFHWA may be appealed by the State to the Federal Highway Administrator (Administrator), whose action on the request shall be considered administratively final.

(5) A request for a waiver which involves nationwide public interest or availability issues or more than one FHWA region may be submitted by the RFHWA to the Administrator for action.

(6) A request for waiver and an appeal from a denial of a request must include facts and justification to support the granting of the waiver. The FHWA response to a request or appeal will be in writing and made available to the public upon request. Any request for a nationwide waiver and FHWA's action on such a request may be published in the Federal Register for public comment.

(7) In determining whether the waivers described in paragraph (c)(1) of this section will be granted, the FHWA will consider all appropriate factors including, but not limited to, cost, administrative burden, and delay that would be imposed if the provision were not waived.

(d) Standard State and Federal-aid contract procedures may be used to assure compliance with the requirements of this section.

[48 FR 53104, Nov. 25, 1983, as amended at 49 FR 18821, May 3, 1984; 58 FR 38975, July 21, 1993]

# KENTUCKY TRANSPORTATION CABINET

lpa-chgord  
 Mod 07/2/10

## Local Public Agency CHANGE ORDER

Page \_\_\_\_\_

Contract ID \_\_\_\_\_

Change Order No \_\_\_\_\_

Contractor \_\_\_\_\_

Contractor \_\_\_\_\_

Address \_\_\_\_\_

Project Sponsor \_\_\_\_\_

County \_\_\_\_\_

Project Number \_\_\_\_\_

Project Name \_\_\_\_\_

*Proposed Changes in Connection with Contract Items:*

Item No.		Description	Quantity	Unit	Unit Price	Amount
<i>Total for this Page</i>						
<i>Total for Continuation Page(s)</i>						
<i>Total Contract Items</i>						

*Proposed Items of Supplemental Agreement:*

Ref. No.		Description	Quantity	Unit	Unit Price	Amount
<i>Total for this Page</i>						
<i>Total for Continuation Page(s)</i>						
<i>Total Supplemental Agreement</i>						
<b><i>Total Amount</i></b>						

Time Extension/Explanation:

Reasons for Proposed Changes:

If approved by Transportation Cabinet, the undersigned contractor agrees to do the work outlined herein and to accept as payment in full the basis of payment as set forth herein.

Requested \_\_\_\_\_  
Project Engineer DATE

Recommended \_\_\_\_\_  
District LPA Coordinator DATE

Recommended \_\_\_\_\_  
Commissioner of Rural & Municipal Aid DATE

Approved \_\_\_\_\_  
LPA Signature Authority DATE

\_\_\_\_\_  
Title DATE

Approved \_\_\_\_\_  
Secretary of Transportation Cabinet DATE

\_\_\_\_\_  
Contractor

By: \_\_\_\_\_

\_\_\_\_\_  
Date