CITY COUNCIL AGENDA ITEM COVER MEMO

Agenda Item Number_____

Meeting Type: Regular

Meeting Date: 4/26/2012

Action Requested By:
Engineering

Agenda Item Type
Resolution

Subject Matter:

Agreement with Christopher Professional Enterprises, Inc.

Exact Wording for the Agenda:

Resolution authorizing the Mayor to enter into an agreement with the low bidder, Christopher Professional Enterprises, Inc., for Redstone Gateway Extension, Market Street and Overlook Road Relocation-Package 1F-3 Primary Communication/Primary Electrical, Project No. 65-11-SP22

Note: If amendment, please state title and number of the original

Item to be considered for: Action

Unanimous Consent Required: No

Briefly state why the action is required; why it is recommended; what Council action will provide, allow
and accomplish and; any other information that might be helpful.

This agreement is for the installation of Primary Communication, Primary Power, and Street Lighting for the Redstone Gateway Extension, Market Street, and Overlook Road Relocation project for a total contract amount of $535,815.00. Account No. 05-6500-0813-3004

Associated Cost:

Budgeted Item: Select...

MAYOR RECOMMENDS OR CONCURS: Select...

Department Head: for Lonnie Adams

Date: 4/18/12

revised 3/12/2012

ROUTING SLIP
CONTRACTS AND AGREEMENTS

Originating Department: **Engineering** Council Meeting Date: **4/26/2012**

Department Contact: **Lynn Majors** Phone # **256-427-5201**

Contract or Agreement: **Construction Contract**

Document Name: **Christopher-Redstone Gateway 1F3 65-11-SP22**

City Obligation Amount: **$535,815.00**

Total Project Budget: **$535,815.00**

Uncommitted Account Balance: **0**

Account Number: **05-6500-0813-3004**

Procurement Agreements

Title 39	Competitive

Grant-Funded Agreements

Not Applicable	Grant Name:

Department	Signature	Date
1) Originating	Lonnie Adam	4/18/12
2) Legal	Mary C Cates	4/19/12
3) Finance	[illegible]	4/19/12
4) Originating		
5) Copy Distribution		
a. Mayor's office (1 copies)		
b. Clerk-Treasurer (Original & 2 copies)		

RESOLUTION NO. 12-_____

BE IT RESOLVED by the City Council of the City of Huntsville, Alabama, that the Mayor be, and is hereby authorized, to enter into a contract with the low bidder, Christopher Professional Enterprises, Inc., in the amount of FIVE HUNDRED THIRTY-FIVE THOUSAND EIGHT HUNDRED FIFTEEN AND NO/100 DOLLARS ($535,815.00) for Redstone Gateway Extension, Market Street and Overlook Road Relocation-Package 1F-3 Primary Communication/Primary Electrical, Project No. 65-11-SP22, in Huntsville, Alabama, on behalf of the City of Huntsville, a municipal corporation in the State of Alabama, which said agreement is substantially in words and figures similar to that document attached hereto and identified as "Contract between City of Huntsville and Christopher Professional Enterprises, Inc. for Redstone Gateway Extension, Market Street and Overlook Road Relocation-Package 1F-3 Primary Communication/Primary Electrical, Project No. 65-11-SP22" consisting of a total of one (1) page plus one hundred sixty-nine (169) additional pages consisting of Attachments A-I, Supplement to General Requirements for Construction of Public Improvements and all Addenda, "Certification of Compliance with Title 39, Code of Alabama", and "E-Verify Statement", and the date of April 26, 2012 appearing on the margin of the first page, together with the signature of the President or President Pro Tem of the City Council, and an executed copy of said document being permanently kept on file in the Office of the City Clerk of the City of Huntsville, Alabama.

ADOPTED this the 26th day of April, 2012.

_____
President of the City Council of the City of Huntsville, Alabama

APPROVED this the 26th day of April, 2012.

_____
Mayor of the City of Huntsville, Alabama

CONTRACT BETWEEN CITY OF HUNTSVILLE
AND
CHRISTOPHER PROFESSIONAL ENTERPRISES, INC.
FOR
REDSTONE GATEWAY EXTENSION, MARKET STREET AND OVERLOOK ROAD RELOCATION-PACKAGE 1F-3 PRIMARY COMMUNICATION/PRIMARY ELECTRICAL
PROJECT NO. 65-11-SP22

STATE OF ALABAMA}
MADISON COUNTY}

THIS CONTRACT, made and entered into this 26th day of April, 2012, between the CITY OF HUNTSVILLE, ALABAMA, a Municipal Corporation, sometimes referred to herein as City, and CHRISTOPHER PROFESSIONAL ENTERPRISES, INC., sometimes referred to herein as Contractor.

-WITNESSETH-

WHEREAS, the City desires to install, construct or make certain improvements known as Redstone Gateway Extension, Market Street and Overlook Road Relocation-Package 1F-3 Primary Communication/Primary Electrical, Project #65-11-SP22, in the City of Huntsville, Madison County, Alabama, all in accordance with details, specifications, surveys and general requirements prepared by the City of Huntsville Urban Development Department - Engineering Division, which are on file in the Office of the City Engineer of the City of Huntsville, Alabama, all of which details, specifications, surveys and general requirements are made a part of this contract, and

NOW, THEREFORE, it is agreed that the Contractor promises and agrees to make such improvements for the party of the first part for the considerations hereinafter set out. The Contractor promises and agrees to furnish all necessary labor, materials and equipment for the doing of the same, all to be done in accordance with such details, plans, specifications and general requirements hereto attached and made a part of this contract.

FOR THE PERFORMANCE of such work, the City agrees to pay the Contractor as follows per Attachment "B".

Christopher Professional Enterprises, Inc.

BY:

Tommy Battle, Mayor

ATTEST: Laneka Carter

Charles E. Hagood
City Clerk Treasurer

Mark Russell
City Council President

DATE: April 26, 2012

REDSTONE GATEWAY EXTENSION, MARKET STREET, AND OVERLOOK ROAD RELOCATION-PACKAGE 1F-3 PRIMARY COMMUNICATION/PRIMARY ELECTRICAL
PROJECT NO. 65-11-SP22

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ATTACHMENT "A" to Proposal
REDSTONE GATEWAY PACKAGE 1F
PROJECT #65-11-SP22

Schedule Milestone Dates
(Calendar Days from Anticipated General Notice to Proceed Date)

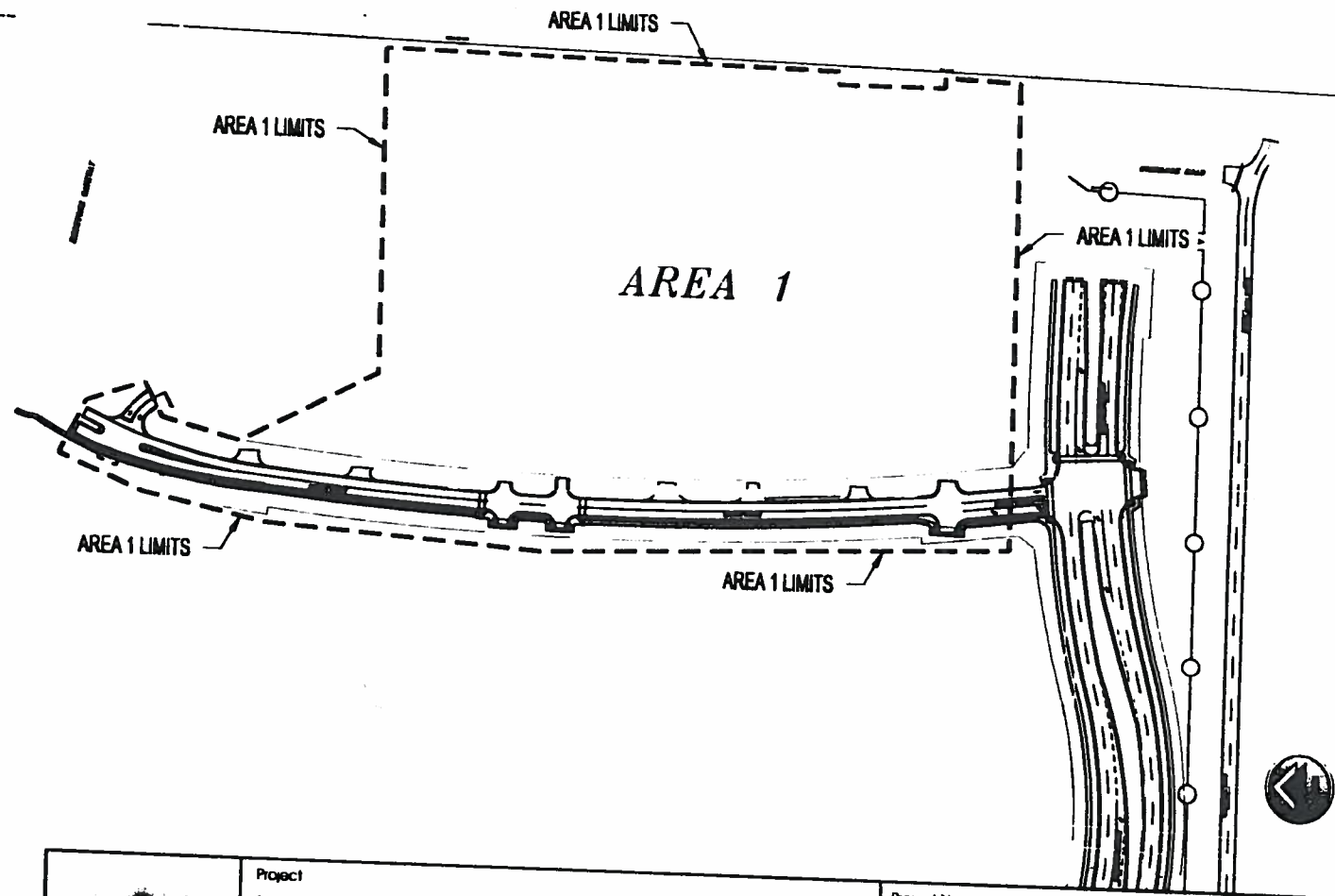
Responsibility	Construction Activity	Days from NTP to Milestone Completion
Package 1F-1	Anticipated General Notice to Proceed (NTP)	3/12/2012
	Finish Storm Drainage	154 days**
	Finish Area 1 (Building Pads, Grading, Storm Sewer, and Sanitary Sewer per Area 1 Exhibit)	80 days**
	Finish Paving Balance of Site	275 days**
Package 1F-2	Anticipated General Notice to Proceed (NTP)	5/29/2012
	Finish Water System	40 days**
Package 1F-3	Anticipated General Notice to Proceed (NTP)	6/4/2012
	Finish Communications and Electrical System	60 days**
Package 1F-4	Anticipated General Notice to Proceed (NTP)	9/4/2012
	Finish Landscape, Irrigation, and Hardscape	90 days**

Legend
1F-1 - Fine Grading, Erosion Control, Storm, Curb, and Paving
1F-2 - Water System
1F-3 - Primary Communication & Primary Electrical
1F-4 –Landscape, Irrigation, and Hardscape

** - LIQUIDATED DAMAGES WILL BE APPLIED

Notes:
1. If NTP dates are delayed through no fault of the contractor, NTP dates will be adjusted accordingly.

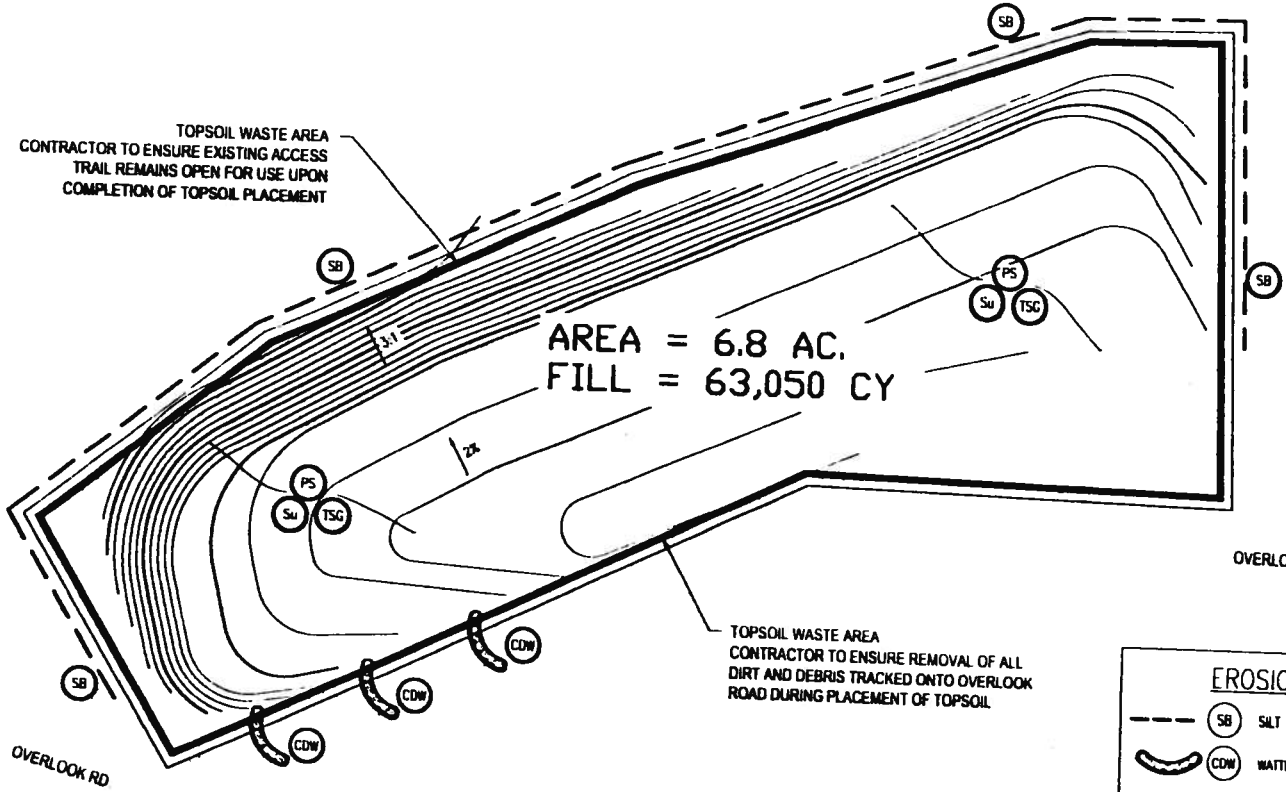
Exhibits



LBYD

Project: PACKAGE 1F	Project No.: 302-10-002A	Date: 9/15/2011
Drawing Title: AREA 1 TURNOVER EXHIBIT		Drawing No.: EX. 1

716 South 30th Street ▲ Birmingham, Alabama 35233
Phone (205) 251-4500 ▲ Structural Fax (205) 324-4181 ▲ Civil Fax (205) 488-0226 ▲ www.lbyd.com



EROSION CONTROL LEGEND

SB	SILT FENCING	TSG	TOPSOIL
CDW	WATTLE CHECK DAM	PS	PERMANENT SEEDING
		Su	SURFACE ROUGHLNING

SPECIAL NOTE
CONTRACTOR IS RESPONSIBLE FOR ALL EROSION CONTROL PERMITTING.

0 50 100 200
SCALE 1" = 100'

LBYD

Project: REDSTONE GATEWAY PACKAGE 1F	Project No 302-10-002A	Date 3/23/2012
Drawing title: OFF-SITE TOPSOIL WASTE AREA		Drawing No EX 2.0

305 Church Street SW Suite 719 • Huntsville, Alabama 35801
Phone (256) 533-1575 • Fax (256) 533-1744 • www.lbyd.com

ATTACHMENT "B" to PROPOSAL
PROPOSAL FORM
PACKAGE 1F - 3 Primary Communication and Primary Electrical Package
REDSTONE GATEWAY
COH PROJECT NO. 65-11-SP22

ITEM	DESCRIPTION	QTY.	UNIT	AMOUNT	AMOUNT DESCRIPTION (MUST BE WRITTEN IN "WORDS" AND MATCH THE "AMOUNT" COLUMN FIGURE)
1	**Mobilization:** *(not to exceed 5% of the total base bid)*	1	L.S.	$ 25,511.00	FOR THE LUMP SUM PRICE OF: twenty five thousand five hundred eleven DOLLARS AND zero CENTS
2	**Primary Communication and Primary Electrical:** *(to include all labor, materials, supervision, overhead and profit to complete work as shown and outlined in project plans and specifications)*	1	L.S.	$ 337,269.00	FOR THE LUMP SUM PRICE OF: three hundred thirty seven thousand two hundred sixty nine DOLLARS AND zero CENTS
3	**Electrical Distribution Infrastructure Aid to Construction:** *Contractor to include allowance for materials furnished by Huntsville Utilities. (Per Project Specifications)*	1	L.S.	$172,935.00	FOR THE LUMP SUM PRICE OF: one hundred seventy two thousand one hundred thirty five DOLLARS AND zero CENTS
4	**Street Lights Aid to Construction:** *Contractor to include allowance for materials furnished by Huntsville Utilities. (Per Project Specifications)*	1	L.S.	In Above	FOR THE LUMP SUM PRICE OF: _____ DOLLARS AND _____ CENTS
5	**Total Allowances Item A (Below)**	1	L.S.	$ 100.00	FOR THE LUMP SUM PRICE OF: one hundred DOLLARS AND zero CENTS
	FOR THE TOTAL BASE BID LUMP SUM PRICE OF (ITEMS 1 thru 5):			$ 535,815.00	FOR THE LUMP SUM PRICE OF: five hundred thirty five thousand eight hundred fifteen DOLLARS AND zero CENTS

ALLOWANCES TO BE INCLUDED IN BASE BID TOTAL
(Note: Allowances will be used on an as-needed basis. Upon Project Completion, Any Balance will be subtracted from Contract)
ALL VOLUME MEASUREMENTS TO BE "BANK YARDS" - (IN PLACE MEASUREMENT)

ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL AMOUNT	AMOUNT DESCRIPTION (MUST BE WRITTEN IN "WORDS" AND MATCH THE "TOTAL AMOUNT" COLUMN FIGURE)
A	**Trench Rock Removal and place on-site Allowance:** *For Additive Change Orders*	100	CY	$ 1.00	$ 100.00	FOR THE LUMP SUM PRICE OF: one hundred DOLLARS AND zero CENTS
	Total Allowances for Items A:			$ 100.00		FOR THE LUMP SUM PRICE OF: one hundred DOLLARS AND zero CENTS

The Apparent Low Bidder(s) will be required to submit, within Two (2) business day after bid opening, a detailed "balanced" breakdown of Bid Items # 1-5 indicating quantities and unit prices. Such unit prices will be the basis for additive and deductive change orders.

***Legal Name of Bidder (Company) :** Christopher Professional Enterprises Inc

Mailing Address : PO Box 247 Athens, AL 35612

By (authorized signature) : Maggie C Will

Name (Typed) : Maggie C Williams

Title : Secretary

Date : 4/12/12

** If other than the individual proprietor, a named member of the Partnership, the President, Vice-President or Secretary of the Corporation, attach written authority to bind the Bidder. Any modification shall be over the initials of the person signing the bid.*

PROPOSAL

TO: THE CITY OF HUNTSVILLE

Public Services Building
320 Fountain Circle
Huntsville, Alabama

PROPOSAL OF Christopher Professional Enterprises Inc
(NAME)
15891 Reid Rd Athens, AL 35611
(ADDRESS)

TO MAKE CERTAIN IMPROVEMENTS ENTITLED:

REDSTONE GATEWAY PACKAGE 1F- Redstone Gateway Extension, Market Street, and Overlook Road Relocation (Unsecure Area)
PROJECT #65-11-SP22

FOR THE CITY OF HUNTSVILLE, ALABAMA.

GENTLEMEN:
The undersigned bidder has carefully examined the drawings orplans, bid documents, the specifications, the general requirements, the supplement to general requirements, the general terms and conditions, this proposal, the agreement, together with any addenda thereto, and agrees to furnish and deliver all the materials, and to do and perform all the work and labor required to be furnished and delivered, done and performed in and about the improvements as described above and in accordance with certain specifications prepared and approved by the OWNER (City of Huntsville, Alabama). It is MANDATORY that receipt of each and all addenda be acknowledged in writing by the undersigned bidder, either on page 2 of the Proposal or on the outside of the envelope. Failure to acknowledge receipt of all addenda in writing shall result in the rejection of the bid.

The undersigned bidder understands that when unit prices are called for, the quantities shown herein are approximate only and are subject to increase or decrease, and offers to do the work whether the quantities are increased, or decreased, at the unit prices stated on the proposal form. The undersigned bidder also understands that when lump sum bids are called for, he will be required to furnish all equipment, labor, material and other items or cost to construct a complete facility. The undersigned bidder further understands that any deletions or additions designated on the outside of the bid envelope, must indicate the particular bid item relative to the deletion or addition, even if the deletion or addition references to deduct or add to the Total Base Bid.

Certificates of Insurance are required naming the City as the Certificate Holder. Also, the name of the project and project number should be included on the certificate. The Certificates should reflect the insurance coverage required herein. In addition, a copy of the policy may be requested upon award. The Certificates are to be signed by a person authorized by the insurer to bind coverage on its behalf and must indicate coverage will not be canceled or non-renewed except after thirty (30) days prior written notice to the City at the following address: City of Huntsville, P.O. Box 308, Huntsville, Alabama 35804 ATTN Penny Kelly.

The undersigned bidder understands that the Contract Time and required milestones for completion of all work is listed on Attachment "A", Schedule Milestone Dates.

THE UNDERSIGNED BIDDER ALSO AGREES AS FOLLOWS:
All bonds must be approved by the Mayor and the Clerk-Treasurer of the City of Huntsville. Within fifteen (15) days after the date of acceptance of this proposal by City Council action, the contractor shall execute the contract and furnish to the OWNER a payment (labor and material) bond and a performance bond, each in the amount of 100% of the contract amount. A notice to proceed will not be issued until the contractor has furnished the required bonds and insurance. No contract extension will be allowed for delays in the issuance of the notice to proceed that are a result of the contractor failing to submit the required items within the 15 days.

REDSTONE GATEWAY PACKAGE1F REDSTONE GATEWAY EXTENSION, MARKET STREET, AND OVERALOOK ROAD RELOCATION (UNSECURE AREA)
PROJECT #65-11-SP22

It is further understood and agreed that the Contractor shall commence work to be performed under this contract within fifteen (15) days from the date of notice to proceed, unless otherwise instructed in writing by the OWNER. All work shall be carried on continuously to completion.

Accompanying this proposal is a certified check or bid bond payable to the City of Huntsville, Alabama in the amount of not less than five percent (5%) of the total amount shown on the proposal form(s)for the base bid(s) but not exceeding $10,000.00. The check or bid bond shall be forfeited as liquidated damages if, in the event that his proposal is accepted, the undersigned shall fail to execute the contract and furnish a satisfactory contract bond under the conditions and within the time specified in this proposal. Otherwise, said certified check or bid bond will be returned to the undersigned.

DATED: 4/12, 2012

(IF AN INDIVIDUAL, PARTNERSHIP, OR NON-INCORPORATED ORGANIZATION)
SIGNATURE OF BIDDER _____

BY _____

ADDRESS OF BIDDER _____

NAMES AND ADDRESSES OF MEMBERS OF THE FIRM:

_____ _____

_____ _____

OUR CONTRACTOR'S STATE LICENSE NO. IS 44809

(IF A CORPORATION)
SIGNATURE OF BIDDER Christopher Professional Enterprises Inc

BY [illegible]

BUSINESS ADDRESS 15891 Reid Rd Athens AL 35611

INCORPORATED UNDER THE LAWS OF THE STATE OF Alabama

NAMES OF OFFICERS

PRESIDENT Dale Christopher

SECRETARY Tony Christopher

TREASURER Dale Christopher

MANDATORY ACKNOWLEDGEMENT OF ADDENDA: Addenda will only be faxed to those bidders who attend and have signed in at the pre-bid meeting. It is the responsibility of all bidders to refer to the City of Huntsville website for any updates. Acknowledge all addenda received below and considered in this bid by listing by addenda number below:

1 2 _____ _____ _____ _____

Attach the appropriate Proposal Form for your Package(s) to this Proposal.

Proposal Form for Package 1F-2 Water System
Proposal Form for Package 1F-3 Primary Communication and Primary Electrical
Proposal Form for Package 1F-4 Landscape, Irrigation, and Hardscape

ATTACHMENT "C" to PROPOSAL
REDSTONE GATEWAY PACKAGE 1F REDSTONE GATEWAY EXTENSION, MARKET STREET, AND OVERLOOK ROAD RELOCATION (UNSECURE AREA)
PROJECT #65-11-SP22

PROPOSED SUBCONTRACTORS

See Supplement to General Requirements, Section 6, "Subcontractors"for additional information.

SUBCONTRACTOR NAME	ADDRESS	SCOPE OF WORK
NA		

ATTACHMENT "D" to PROPOSAL
REDSTONE GATEWAY PACKAGE 1F REDSTONE GATEWAY EXTENSION, MARKET STREET, AND OVERLOOK ROAD RELOCATION (UNSECURE AREA)
PROJECT #65-11-SP22

DBE/MBE/WBE PARTICIPATION LISTING

The Contractor shall engage in outreach efforts to encourage small or disadvantaged businesses (including, but not limited to, women-owned businesses, minority owned businesses, businesses owned by persons with disabilities, and other small or disadvantaged businesses) to respond to solicitations for bidsas subcontractors and shall provide details of their outreach efforts in regard to their subcontractors by written reports to the City of Huntsville's Procurement Division.

DBE/MBE/WBE Company	Scope	Amount	% of Contract
NA			

Add additional lines below or on back of this sheet as required:

ATTACHMENT "E" to PROPOSAL

NOTICE TO CONTRACTORS

April/May 2012

Owner:
City of Huntsville, AL
320 Fountain Circle
Huntsville, AL 35801

Project Manager
Brasfield & Gorrie, L.L.C.
3021 7th Avenue South
Birmingham, AL 35233
Phone 205/328-4000 or 205/714-1322
Fax 205/714-1399
Contact: Matt Kelley

Project:
Redstone Gateway Package IF Redstone Gateway Extension, Market Street, and Overlook Road Relocation (Unsecure Area)

Bid Packages:
1F-2 Water System Package
1F-3 Primary Communication and Primary Electrical Package

Brasfield & Gorrie, L.L.C., acting as agent on behalf of City of Huntsville, AL, requests bids for: **Prime Contract Package Work referenced below in association with the construction of Redstone Gateway Package IF Redstone Gateway Extension, Market Street, and Overlook Road Relocation (Unsecure Area), in Huntsville, Alabama. The Prime Contract Packages covered by this advertisement are below:**

These packages include but are not limited to the following items:
1F-2 Water System Package – domestic and fire water system and associated structures and appurtenances.
1F-3 Primary Communication and Primary Electrical Package – duct bank, conduit, manholes, hand holes, light poles, light pole bases, transformer and transformer pads, and miscellaneous site electrical.

Bids will be received on behalf of City of Huntsville, AL until 3:00 p.m. on April 12, 2012, and will thereafter be publicly opened and read aloud in the First Floor Conference Room at the City of Huntsville Public Services Building, 320 Fountain Circle, Huntsville, AL 35801. Bids must be submitted on proposal forms furnished. **(Bids shall be clearly identified on the exterior of the package with the bidder's name, address, state license number, the name and project number of the package being bid, and time and place of the bid opening. Sealed bids shall be properly identified.)**

Bids may be sent by **Air Courier, Delivery or Messenger Service or hand delivered** to **Attention: Matt Kelley, City of Huntsville Engineering Department, Public Services Building, 320 Fountain Circle, Huntsville, AL 35801,** or **mailed by United States Postal Service** to **City of Huntsville Engineering Department, P.O. Box 308, Huntsville, AL 35804. Delivery by any of these means must be received before 5:00 p.m. on the day prior to the date of the bid opening. After 5:00 p.m. on the day prior to the date of the bid opening, bids must be hand delivered and presented at the bid opening. Sealed bids shall be submitted in triplicate and shall be properly identified. All bids received after 3:00 p.m. on the noted bid date will be returned unopened.**

A cashier's check drawn on an Alabama bank or bid bond, executed by a surety company duly authorized and qualified to make such bonds in Alabama, payable to City of Huntsville, AL in the amount of 5% of the amount of bids, but in no event more than $10,000.00, must accompany the bidder's bid.

Construction contracts shall be awarded only to qualified contractors, licensed by the State Licensing Board for General Contractors, as required by Title 34, Chapter 8, Code of Alabama. Construction contracts in excess of $50,000 shall be awarded only to contractors licensed as required by the 1978 Code of Alabama, Title 34, Chapter 8 as amended. Bidders must be "responsible" in accordance with criteria in the bid documents and as stipulated by Title 39-2-4-(e) of the Code of Alabama.

In determining the successful bidder, the Owner will consider in addition to the bid prices, such responsibility factors as characteristics and responsibility, skill, experience, record of integrity in business, and of performance offered and past record of performance on Owner contracts on other similar projects. Any other factors not specifically mentioned or provided for herein, in addition to that of the bid price which would affect the final cost of the owner, will be taken into consideration in making award of contract. The right is reserved to reject any bid where investigation of the business and technical organization of the bidder available for the contemplated work, including financial resources, equipment, and experience on similar projects does not satisfy the Owner that such bidder is qualified to perform the work. The City Council of the City of Huntsville reserves the right to reject any and all bids and to waive informalities.

All bonds must be approved by the Mayor and the Clerk-Treasurer of the City of Huntsville. Within fifteen (15) days after the date of acceptance of this proposal by City Council action, the contractor shall execute the contract and furnish to the Owner a payment (labor and material) bond and a performance bond, each in the amount of 100% of the contract amount, as well as a Certificate of Insurance. No contract extension will be allowed for delays in the issuance of the notice to proceed that are a result of the contractor failing to submit the required items within the 15 days.

Bid documents will be made available by the Project Manager on March 26, 2012, on the City of Huntsville website. (http://www.huntsvilleal.gov/engineering/bidlist.html)

All requests for information concerning the bid documents must be submitted in writing to the Project Manager as noted above so the question can be addressed with the design consultant and/or Owner as required.

A **MANDATORY** Pre-bid Conference will be held on April 3, 2012, at 3:00 p.m. at the City of Huntsville Public Services Building, 1st Floor Conference Room, 320 Fountain Circle, Huntsville, AL 35801. Bidders must attend this pre-bid conference in order to be eligible to submit a bid.

ATTACHMENT "F" to PROPOSAL
REFERENCE OF SIMILAR PROJECTS

REDSTONE GATEWAY PACKAGE 1FREDSTONE GATEWAY EXTENSION, MARKET STREET, AND OVERLOOK ROAD RELOCATION (UNSECURE AREA)
PROJECT #65-11-SP22

Contractor shall provide at least five (5) references including NAME OF PROJECT, Owner Name, address, phone number and contact name that demonstrates contractor's ability on similar projects.

1. See attached

2.

3.

4.

5.

Christopher Professional Enterprises Inc.

Redstone Gateway IB-3
City of Huntsville
320 Fountain Circle
Huntsville, AL 35801
Chris McNeese
256-427-5300

Periodic Bid for various construction projetcts-2003-2005
City of Huntsville
320 Fountain Circle
Huntsville, AL 35801
256-427-5300

Sanitary Sewer Periodic-Current
City of Huntsville
320 Fountain Circle
Huntsville, AL 35801
256-427-5300

Squaw Valley Interceptor
City of Huntsville
320 Fountain Circle
Huntsville, AL 35801
256-427-5300
Shane Cook

Nance Rd Improvements
City of Huntsville
320 Fountain Circle
Huntsville, AL 35801
256-427-5300
Toneka Lindsey

Western Area Inceptor Ph 4 Contract A
City of Huntsville
320 Fountain Circle
Huntsville, AL 35801
256-427-5300
Kathy Martin

Western Area Inceptor Ph 4 Contract B
City of Huntsville
320 Fountain Circle
Huntsville, AL 35801
256-427-5300
Kathy Martin

(256) 232-4460 PO Box 247 15891 Reid Rd 35611 Athens, AL 35612 (256) 232-4446 fax

Fagan Creek Relocation
City of Huntsville
320 Fountain Circle
Huntsville, AL 35801
256-427-5300

Williams Ave Realign
City of Huntsville
320 Fountain Circle
Huntsville, AL 35801
256-427-5300

CITY OF HUNTSVILLE, ALABAMA
CONTRACTOR E-VERIFY CERTIFICATION

The City of Huntsville, Alabama ("City") has adopted Ordinance No. 09-735 ("E-Verify Ordinance"), which requires that certain contractors of the City comply with certain employment requirements. The ordinance appears on the following pages.

Pursuant to the E-Verify Ordinance, the undersigned ("Contractor") hereby acknowledges:

1. That it has obtained a copy of this certification that includes the E-Verify Ordinance; and

2. That it has read and understands the requirements of the E-Verify Ordinance, particularly Section 3 – Requirements and Section 4 – Enforcement Provisions that pertain to Contractor; and

3. That if Contractor elects to use an alternate comparable employment eligibility verification system to be used in lieu of E-Verify as defined in the E-Verify Ordinance, Contractor shall make a written request for approval of such system to the City's Finance Director through the Procurement Services Division; and

4. That if Contractor uses one or more subcontractors in connection with the performance of a contract as defined in the E-Verify Ordinance, Contractor shall include in all subcontracts valued at $3,000 or more the requirement for compliance by the subcontractor with the E-Verify Ordinance, and that certification from a subcontractor shall be furnished by the Contractor to the City within three (3) working days from the date of execution the subcontract agreement; and

5. That failure to comply with the E-Verify Ordinance by Contractor or subcontractor shall be a material breach of its Contract with the City.

6. That it shall submit proof of enrollment in the E-Verify system or approved alternate system upon request of the City, prior to award of a contract.

Pursuant to the E-Verify Ordinance, the undersigned ("Contractor") hereby certifies:

1. That pursuant to 8 U.S.C. § 1324a, it shall be unlawful for Contractor to hire, or to recruit or refer for a fee, for employment in the United States an alien knowing the alien is an unauthorized alien with respect to such employment; and

2. That contractor shall not knowingly employ or contract with an unauthorized alien in violation of 8 U.S.C. § 1324a.

Christopher Professional Enterprises Inc
Printed legal name of Contractor

Maggie C Williams Secretary
Printed name of individual/corporate officer/general partner/joint venturer AND Title

Signature

4/12/12
Date

Introduced 8/13/09
Adopted 8/27/09

ORDINANCE NO. 09-735

ORDINANCE REQUIRING CONTRACTORS TO ATTEST THEY WILL NOT KNOWINGLY VIOLATE 8 U.S.C. § 1324a AND TO ENROLL IN EMPLOYMENT ELIGIBILITY VERIFICATION SYSTEM

SECTION 1. DECLARATION OF PURPOSE

A. The Huntsville City Council declares:

1. 8 U.S.C. § 1324a makes it unlawful to hire, or to recruit or refer for a fee, for employment in the United States an alien knowing the alien is an unauthorized alien with respect to such employment;

2. The City of Huntsville shall require all contractors, as that term is defined by this ordinance, to certify that they will not knowingly violate 8 U.S.C. § 1324a as a condition of receiving a contract;

3. The City of Huntsville shall require all contractors, as that term is defined by this ordinance, to enroll in a designated employment eligibility verification system as a condition of receiving a contract;

4. The City of Huntsville shall require all contractors, as that term is defined by this ordinance, to remain enrolled in a designated employment eligibility verification system throughout the term of a contract; and

5. The City of Huntsville has the right to decline to award, renew or extend a contract and the right to terminate a contract, without any liability, for a contractor's failure to comply with this ordinance.

SECTION 2. DEFINITIONS

A. When used in this ordinance, the following words and terms shall have these meanings and shall be construed so as to be consistent with federal and state law:

1. "City" means the City of Huntsville, Alabama.

2. "Commercially available off-the-shelf (COTS) item" means any item of supply that is sold in substantial quantities in the commercial marketplace and offered to the City in the same form that it is available in the commercial marketplace, or with minor modifications.

3. "Contract" shall mean all types of agreements, including, but not limited to, orders for the purchase or disposal

of supplies or equipment, labor, services, construction, management, or any other item; contracts providing for the issuance of job or task orders; master agreements; and franchise agreements.

4. "Contractor" means any person, employer, or business entity that enters into a contract with the City, has submitted a bid on a contract with the City, or intends to bid on a contract with the City and such contract value is in the amount of $15,000 or more. This definition shall include, but not be limited to, a subcontractor, contract employee, or a recruiting or staffing entity. No governmental agency shall be considered to be a contractor for the purposes of this ordinance.

5. "Designated employment eligibility verification system" is the employment eligibility verification system designated by the City to be used by contractors in compliance with this ordinance.

6. "E-Verify" is a free Internet-based system that is operated or authorized by the United States Department of Homeland Security that allows employers to electronically confirm the legal working status of newly-hired employees.

7. "Unauthorized alien" shall have the same meaning as 8 U.S.C. § 1324a (h)(3).

SECTION 3. **REQUIREMENTS.**

A. As a condition for the award, renewal, or extension of a contract with the City after January 1, 2010, a contractor must furnish written certification to the City of Huntsville the following:

1. Pursuant to 8 U.S.C. § 1324a, it is unlawful to hire, or to recruit or refer for a fee, for employment in the United States an alien knowing the alien is an unauthorized alien with respect to such employment; and

2. It will not knowingly employ or contract with an unauthorized alien in violation of 8 U.S.C. § 1324a.

B. As a condition for the award, renewal, or extension of a contract with the City after January 1, 2010, a contractor must provide written certification that it has enrolled in the designated employment eligibility verification system.

C. The contractor shall have a continuing obligation to remain enrolled in the designated employment eligibility verification system throughout the term of its contract with the City. Upon request of the City's Finance Director, the contractor shall provide proof of its enrollment and continued participation in the designated employment eligibility system.

D. E-Verify shall be the designated employment eligibility verification system for the City. With prior written approval and at the sole discretion of the City's Finance Director, the City may allow an alternate comparable employment eligibility verification system to be used in lieu of E-Verify.

E. As a contractor participant in E-Verify, the Contractor shall be required to use E-Verify for all new employees who will be working directly on the contract with the City, following completion of the Employment Eligibility Verification for I-9.

F. The City shall include specific written notice in all requests for bids or proposals that contractors and any subcontractors are required to enroll in the E-verify program as required by this Ordinance.

G. If a contractor uses one or more subcontractors in connection with the performance of a contract as defined herein, the contractor shall include in all subcontracts valued at $3,000 or more the requirement for compliance by the subcontractor with this Ordinance. Certification from a subcontractor shall be furnished by the Contractor to the City within three (3) working days from the date of execution the subcontract agreement.

H. Exceptions to the Requirements. Notwithstanding any other provision herein, these Requirements shall not apply to the purchase by the City of any commercially available off-the-shelf (COTS) item, to contracts performed outside the United States, to contracts less than $15, 000 in value, nor to subcontracts less than $3,000 in value.

I. Failure to comply with the Requirements herein by a contractor or subcontractor shall be a material breach of such contract or subcontract.

SECTION 4. ENFORCEMENT PROVISIONS.

A. The City may refuse to award, renew, or extend a contract with a contractor who refuses to certify as required in Section 3 of this ordinance.

B. The City may refuse to award, renew or extend a contract with a contractor if the contractor has failed to enroll in the designated employment eligibility verification system, or failed to provide certification of enrollment in the designated employment eligibility verification system, or failed, upon request from City's Finance Director, to provide proof of enrollment and continued participation in the designated eligibility verification system.

C. The City may terminate a contract with any contractor that fails to:

1. Correct a violation of 8 U.S.C. § 1324a within thirty (30) days after notification of the violation by the United States Attorney General or Secretary of Homeland Security;

2. Remain enrolled in the designated employment eligibility verification system throughout the term of its contract with the City;

3. Fails to provide any certifications or proof required herein in a timely manner; or

4. Otherwise comply with the requirements of this Ordinance.

SECTION 5. SEVERABILITY

If any part of this ordinance is held by a court of competent jurisdiction to be unconstitutional, illegal, or invalid for any reason, it shall be construed to have been the legislative intent of the City to pass this ordinance without such unconstitutional, illegal, or invalid provision, and the remainder of this ordinance shall be deemed and held to be constitutional, lawful, and valid as if such portion had not been included. If this ordinance, or any provision of it, is held by a court of competent jurisdiction to be inapplicable to any person, group of persons, property, kind of property, circumstances or set of circumstances, such holding shall not affect the applicability of it to any other persons, property or circumstances.

ADOPTED this the 27th day of August, 2009.

President of the City Council
City of Huntsville, Alabama

APPROVED this the 27th day of August, 2009.

Tommy Battle
Mayor of the City of Huntsville, Alabama

ATTACHMENT "H"

All vendors/contractors are required to submit a Federal Tax Form W-9 to City of Huntsville at the time a contract is awarded, unless vendor/contractor is already registered and doing business with the City. No payments of invoices can be made until this W-9 Tax Form has been properly submitted. A copy of the W-9 Tax Form can be obtained at the following website: www.irs.ustreas.gov/pub/irs-pdf/fw9.pdf

ATTACHMENT "I"

E-VERIFY AFFIDAVITS

FORM FOR SECTIONS 9 (a) and (b) BEASON-HAMMON ALABAMA TAXPAYER AND CITIZEN PROTECTION ACT; CODE OF ALABAMA, SECTIONS 31-13-9 (a) and (b)

AFFIDAVIT FOR BUSINESS ENTITY/EMPLOYER /CONTRACTOR
(To be completed as a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity to a business entity or employer that employs one or more employees)

State of Alabama
County of Limestone

Before me, a notary public, personally appeared Maggie C Williams (print name) who, being duly sworn, says as follows:

As a condition for the award of any contract, grant, or incentive by the State of Alabama, any political subdivision thereof, or any state-funded entity to a business entity or employer that employs one or more employees, I hereby attest that in my capacity as Secretary (state position) for Christopher Professional Enterprise Inc (state business entity/employer/contractor name) that said business entity/employer/contractor shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien.
I further attest that said business entity/employer/contractor is enrolled in the E-Verify program. (ATTACH DOCUMENTATION ESTABLISHING THAT BUSINESS ENTITY/EMPLOYER/CONTRACTOR IS ENROLLED IN THE E-VERIFY PROGRAM)

Signature of Affiant

Sworn to and subscribed before me this 12th day of April, 2012.
I certify that the affiant is known (or made known) to me to be the identical party he or she claims to be.

Signature and Seal of Notary Public

My Comm Exp: 1-22-2013

E-Verify

Company ID Number: 398167

THE E-VERIFY PROGRAM FOR EMPLOYMENT VERIFICATION MEMORANDUM OF UNDERSTANDING

ARTICLE I

PURPOSE AND AUTHORITY

This Memorandum of Understanding (MOU) sets forth the points of agreement between the Department of Homeland Security (DHS) and **Christopher Professional Enterprises, Inc** (Employer) regarding the Employer's participation in the Employment Eligibility Verification Program (E-Verify). This MOU explains certain features of the E-Verify program and enumerates specific responsibilities of DHS, the Social Security Administration (SSA), and the Employer. E-Verify is a program that electronically confirms an employee's eligibility to work in the United States after completion of the Employment Eligibility Verification Form (Form I-9). For covered government contractors, E-Verify is used to verify the employment eligibility of all newly hired employees and all existing employees assigned to Federal contracts or to verify the entire workforce if the contractor so chooses.

Authority for the E-Verify program is found in Title IV, Subtitle A, of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRIRA), Pub. L. 104-208, 110 Stat. 3009, as amended (8 U.S.C. § 1324a note). Authority for use of the E-Verify program by Federal contractors and subcontractors covered by the terms of Subpart 22.18, "Employment Eligibility Verification", of the Federal Acquisition Regulation (FAR) (hereinafter referred to in this MOU as a "Federal contractor with the FAR E-Verify clause") to verify the employment eligibility of certain employees working on Federal contracts is also found in Subpart 22.18 and in Executive Order 12989, as amended.

ARTICLE II

FUNCTIONS TO BE PERFORMED

A. RESPONSIBILITIES OF SSA

1. SSA agrees to provide the Employer with available information that allows the Employer to confirm the accuracy of Social Security Numbers provided by all employees verified under this MOU and the employment authorization of U.S. citizens.

2. SSA agrees to provide to the Employer appropriate assistance with operational problems that may arise during the Employer's participation in the E-Verify program. SSA agrees to provide the Employer with names, titles, addresses, and telephone numbers of SSA representatives to be contacted during the E-Verify process.

3. SSA agrees to safeguard the information provided by the Employer through the E-Verify program procedures, and to limit access to such information, as is appropriate by law, to individuals responsible for the verification of Social Security Numbers and for evaluation of the E-Verify program or such other persons or entities who may be authorized by SSA as governed

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by the Privacy Act (5 U.S.C. § 552a), the Social Security Act (42 U.S.C. 1306(a)), and SSA regulations (20 CFR Part 401).

4. SSA agrees to provide a means of automated verification that is designed (in conjunction with DHS's automated system if necessary) to provide confirmation or tentative nonconfirmation of U.S. citizens' employment eligibility within 3 Federal Government work days of the initial inquiry.

5. SSA agrees to provide a means of secondary verification (including updating SSA records as may be necessary) for employees who contest SSA tentative nonconfirmations that is designed to provide final confirmation or nonconfirmation of U.S. citizens' employment eligibility and accuracy of SSA records for both citizens and non-citizens within 10 Federal Government work days of the date of referral to SSA, unless SSA determines that more than 10 days may be necessary. In such cases, SSA will provide additional verification instructions.

B. RESPONSIBILITIES OF DHS

1. After SSA verifies the accuracy of SSA records for employees through E-Verify, DHS agrees to provide the Employer access to selected data from DHS's database to enable the Employer to conduct, to the extent authorized by this MOU:

- Automated verification checks on employees by electronic means, and
- Photo verification checks (when available) on employees.

2. DHS agrees to provide to the Employer appropriate assistance with operational problems that may arise during the Employer's participation in the E-Verify program. DHS agrees to provide the Employer names, titles, addresses, and telephone numbers of DHS representatives to be contacted during the E-Verify process.

3. DHS agrees to make available to the Employer at the E-Verify Web site and on the E-Verify Web browser, instructional materials on E-Verify policies, procedures and requirements for both SSA and DHS, including restrictions on the use of E-Verify. DHS agrees to provide training materials on E-Verify.

4. DHS agrees to provide to the Employer a notice, which indicates the Employer's participation in the E-Verify program. DHS also agrees to provide to the Employer anti-discrimination notices issued by the Office of Special Counsel for Immigration-Related Unfair Employment Practices (OSC), Civil Rights Division, U.S. Department of Justice.

5. DHS agrees to issue the Employer a user identification number and password that permits the Employer to verify information provided by employees with DHS's database.

6. DHS agrees to safeguard the information provided to DHS by the Employer, and to limit access to such information to individuals responsible for the verification of employees' employment eligibility and for evaluation of the E-Verify program, or to such other persons or entities as may be authorized by applicable law. Information will be used only to verify the accuracy of Social Security Numbers and employment eligibility, to enforce the Immigration and

Nationality Act (INA) and Federal criminal laws, and to administer Federal contracting requirements.

7. DHS agrees to provide a means of automated verification that is designed (in conjunction with SSA verification procedures) to provide confirmation or tentative nonconfirmation of employees' employment eligibility within 3 Federal Government work days of the initial inquiry.

8. DHS agrees to provide a means of secondary verification (including updating DHS records as may be necessary) for employees who contest DHS tentative nonconfirmations and photo non-match tentative nonconfirmations that is designed to provide final confirmation or nonconfirmation of the employees' employment eligibility within 10 Federal Government work days of the date of referral to DHS, unless DHS determines that more than 10 days may be necessary. In such cases, DHS will provide additional verification instructions.

C. RESPONSIBILITIES OF THE EMPLOYER

1. The Employer agrees to display the notices supplied by DHS in a prominent place that is clearly visible to prospective employees and all employees who are to be verified through the system.

2. The Employer agrees to provide to the SSA and DHS the names, titles, addresses, and telephone numbers of the Employer representatives to be contacted regarding E-Verify.

3. The Employer agrees to become familiar with and comply with the most recent version of the E-Verify User Manual.

4. The Employer agrees that any Employer Representative who will perform employment verification queries will complete the E-Verify Tutorial before that individual initiates any queries.

A. The Employer agrees that all Employer representatives will take the refresher tutorials initiated by the E-Verify program as a condition of continued use of E-Verify.

B. Failure to complete a refresher tutorial will prevent the Employer from continued use of the program.

5. The Employer agrees to comply with current Form I-9 procedures, with two exceptions:

• If an employee presents a "List B" identity document, the Employer agrees to only accept "List B" documents that contain a photo. (List B documents identified in 8 C.F.R. § 274a.2(b)(1)(B)) can be presented during the Form I-9 process to establish identity.) If an employee objects to the photo requirement for religious reasons, the Employer should contact E-Verify at 888-464-4218.

• If an employee presents a DHS Form I-551 (Permanent Resident Card) or Form I-766 (Employment Authorization Document) to complete the Form I-9, the Employer agrees to make a photocopy of the document and to retain the photocopy with the employee's Form I-9. The photocopy must be of sufficient quality to allow for verification of the photo

and written information. The employer will use the photocopy to verify the photo and to assist DHS with its review of photo non-matches that are contested by employees. Note that employees retain the right to present any List A, or List B and List C, documentation to complete the Form I-9. DHS may in the future designate other documents that activate the photo screening tool.

6. The Employer understands that participation in E-Verify does not exempt the Employer from the responsibility to complete, retain, and make available for inspection Forms I-9 that relate to its employees, or from other requirements of applicable regulations or laws, including the obligation to comply with the antidiscrimination requirements of section 274B of the INA with respect to Form I-9 procedures, except for the following modified requirements applicable by reason of the Employer's participation in E-Verify: (1) identity documents must have photos, as described in paragraph 5 above; (2) a rebuttable presumption is established that the Employer has not violated section 274A(a)(1)(A) of the Immigration and Nationality Act (INA) with respect to the hiring of any individual if it obtains confirmation of the identity and employment eligibility of the individual in good faith compliance with the terms and conditions of E-Verify; (3) the Employer must notify DHS if it continues to employ any employee after receiving a final nonconfirmation, and is subject to a civil money penalty between $550 and $1,100 for each failure to notify DHS of continued employment following a final nonconfirmation; (4) the Employer is subject to a rebuttable presumption that it has knowingly employed an unauthorized alien in violation of section 274A(a)(1)(A) if the Employer continues to employ an employee after receiving a final nonconfirmation; and (5) no person or entity participating in E-Verify is civilly or criminally liable under any law for any action taken in good faith based on information provided through the confirmation system. DHS reserves the right to conduct Form I-9 and E-Verify system compliance inspections during the course of E-Verify, as well as to conduct any other enforcement activity authorized by law.

7. The Employer agrees to initiate E-Verify verification procedures for new employees within 3 Employer business days after each employee has been hired (but after the Form I-9 has been completed), and to complete as many (but only as many) steps of the E-Verify process as are necessary according to the E-Verify User Manual, or in the case of Federal contractors with the FAR E-Verify clause, the E-Verify User Manual for Federal Contractors. The Employer is prohibited from initiating verification procedures before the employee has been hired and the Form I-9 completed. If the automated system to be queried is temporarily unavailable, the 3-day time period is extended until it is again operational in order to accommodate the Employer's attempting, in good faith, to make inquiries during the period of unavailability. Employers may initiate verification by notating the Form I-9 in circumstances where the employee has applied for a Social Security Number (SSN) from the SSA and is waiting to receive the SSN, provided that the Employer performs an E-Verify employment verification query using the employee's SSN as soon as the SSN becomes available.

8. The Employer agrees not to use E-Verify procedures for pre-employment screening of job applicants, in support of any unlawful employment practice, or for any other use not authorized by this MOU. Employers must use E-Verify for all new employees, unless an Employer is a Federal contractor that qualifies for the exceptions described in Article II.D.1.c. Except as provided in Article II.D, the Employer will not verify selectively and will not verify employees hired before the effective date of this MOU. The Employer understands that if the Employer

uses the E-Verify system for any purpose other than as authorized by this MOU, the Employer may be subject to appropriate legal action and termination of its access to SSA and DHS information pursuant to this MOU.

9. The Employer agrees to follow appropriate procedures (see Article III. below) regarding tentative nonconfirmations, including notifying employees in private of the finding and providing them written notice of the findings, providing written referral instructions to employees, allowing employees to contest the finding, and not taking adverse action against employees if they choose to contest the finding. Further, when employees contest a tentative nonconfirmation based upon a photo non-match, the Employer is required to take affirmative steps (see Article III.B. below) to contact DHS with information necessary to resolve the challenge.

10. The Employer agrees not to take any adverse action against an employee based upon the employee's perceived employment eligibility status while SSA or DHS is processing the verification request unless the Employer obtains knowledge (as defined in 8 C.F.R. § 274a.1(l)) that the employee is not work authorized. The Employer understands that an initial inability of the SSA or DHS automated verification system to verify work authorization, a tentative nonconfirmation, a case in continuance (indicating the need for additional time for the government to resolve a case), or the finding of a photo non-match, does not establish, and should not be interpreted as evidence, that the employee is not work authorized. In any of the cases listed above, the employee must be provided a full and fair opportunity to contest the finding, and if he or she does so, the employee may not be terminated or suffer any adverse employment consequences based upon the employee's perceived employment eligibility status (including denying, reducing, or extending work hours, delaying or preventing training, requiring an employee to work in poorer conditions, refusing to assign the employee to a Federal contract or other assignment, or otherwise subjecting an employee to any assumption that he or she is unauthorized to work) until and unless secondary verification by SSA or DHS has been completed and a final nonconfirmation has been issued. If the employee does not choose to contest a tentative nonconfirmation or a photo non-match or if a secondary verification is completed and a final nonconfirmation is issued, then the Employer can find the employee is not work authorized and terminate the employee's employment. Employers or employees with questions about a final nonconfirmation may call E-Verify at 1-888-464-4218 or OSC at 1-800-255-8155 or 1-800-237-2515 (TDD).

11. The Employer agrees to comply with Title VII of the Civil Rights Act of 1964 and section 274B of the INA, as applicable, by not discriminating unlawfully against any individual in hiring, firing, or recruitment or referral practices because of his or her national origin or, in the case of a protected individual as defined in section 274B(a)(3) of the INA, because of his or her citizenship status. The Employer understands that such illegal practices can include selective verification or use of E-Verify except as provided in part D below, or discharging or refusing to hire employees because they appear or sound "foreign" or have received tentative nonconfirmations. The Employer further understands that any violation of the unfair immigration-related employment practices provisions in section 274B of the INA could subject the Employer to civil penalties, back pay awards, and other sanctions, and violations of Title VII could subject the Employer to back pay awards, compensatory and punitive damages. Violations of either section 274B of the INA or Title VII may also lead to the termination of its participation in E-

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Verify. If the Employer has any questions relating to the anti-discrimination provision, it should contact OSC at 1-800-255-8155 or 1-800-237-2515 (TDD).

12. The Employer agrees to record the case verification number on the employee's Form I-9 or to print the screen containing the case verification number and attach it to the employee's Form I-9.

13. The Employer agrees that it will use the information it receives from SSA or DHS pursuant to E-Verify and this MOU only to confirm the employment eligibility of employees as authorized by this MOU. The Employer agrees that it will safeguard this information, and means of access to it (such as PINS and passwords) to ensure that it is not used for any other purpose and as necessary to protect its confidentiality, including ensuring that it is not disseminated to any person other than employees of the Employer who are authorized to perform the Employer's responsibilities under this MOU, except for such dissemination as may be authorized in advance by SSA or DHS for legitimate purposes.

14. The Employer acknowledges that the information which it receives from SSA is governed by the Privacy Act (5 U.S.C. § 552a(i)(1) and (3)) and the Social Security Act (42 U.S.C. 1306(a)), and that any person who obtains this information under false pretenses or uses it for any purpose other than as provided for in this MOU may be subject to criminal penalties.

15. The Employer agrees to cooperate with DHS and SSA in their compliance monitoring and evaluation of E-Verify, including by permitting DHS and SSA, upon reasonable notice, to review Forms I-9 and other employment records and to interview it and its employees regarding the Employer's use of E-Verify, and to respond in a timely and accurate manner to DHS requests for information relating to their participation in E-Verify.

D. RESPONSIBILITIES OF FEDERAL CONTRACTORS WITH THE FAR E-VERIFY CLAUSE

1. The Employer understands that if it is a subject to the employment verification terms in Subpart 22.18 of the FAR, it must verify the employment eligibility of any existing employee assigned to the contract and all new hires, as discussed in the Supplemental Guide for Federal Contractors. Once an employee has been verified through E-Verify by the Employer, the Employer may not reverify the employee through E-Verify.

a. Federal contractors with the FAR E-Verify clause agree to become familiar with and comply with the most recent versions of the E-Verify User Manual for Federal Contractors and the E-Verify Supplemental Guide for Federal Contractors.

b. Federal contractors with the FAR E-Verify clause agree to complete a tutorial for Federal contractors with the FAR E-Verify clause.

c. Federal contractors with the FAR E-Verify clause not enrolled at the time of contract award: An Employer that is not enrolled in E-Verify at the time of a contract award must enroll as a Federal contractor with the FAR E-Verify clause in E-Verify within 30 calendar days of contract award and, within 90 days of enrollment, begin to use E-Verify to initiate verification of employment eligibility of new hires of the Employer who are working in the United States,

whether or not assigned to the contract. Once the Employer begins verifying new hires, such verification of new hires must be initiated within 3 business days after the date of hire. Once enrolled in E-Verify as a Federal contractor with the FAR E-Verify clause, the Employer must initiate verification of employees assigned to the contract within 90 calendar days from the time of enrollment in the system and after the date and selecting which employees will be verified in E-Verify or within 30 days of an employee's assignment to the contract, whichever date is later.

d. Employers that are already enrolled in E-Verify at the time of a contract award but are not enrolled in the system as a Federal contractor with the FAR E-Verify clause: Employers enrolled in E-Verify for 90 days or more at the time of a contract award must use E-Verify to initiate verification of employment eligibility for new hires of the Employer who are working in the United States, whether or not assigned to the contract, within 3 business days after the date of hire. Employers enrolled in E-Verify as other than a Federal contractor with the FAR E-Verify clause, must update E-Verify to indicate that they are a Federal contractor with the FAR E-Verify clause within 30 days after assignment to the contract. If the Employer is enrolled in E-Verify for 90 calendar days or less at the time of contract award, the Employer must, within 90 days of enrollment, begin to use E-Verify to initiate verification of new hires of the contractor who are working in the United States, whether or not assigned to the contract. Such verification of new hires must be initiated within 3 business days after the date of hire. An Employer enrolled as a Federal contractor with the FAR E-Verify clause in E-Verify must initiate verification of each employee assigned to the contract within 90 calendar days after date of contract award or within 30 days after assignment to the contract, whichever is later.

e. Institutions of higher education, State, local and tribal governments and sureties: Federal contractors with the FAR E-Verify clause that are institutions of higher education (as defined at 20 U.S.C. 1001(a)), State or local governments, governments of Federally recognized Indian tribes, or sureties performing under a takeover agreement entered into with a Federal agency pursuant to a performance bond may choose to only verify new and existing employees assigned to the Federal contract. Such Federal contractors with the FAR E-Verify clause may, however, elect to verify all new hires, and/or all existing employees hired after November 6, 1986. The provisions of Article II.D, paragraphs 1.a and 1.b of this MOU providing timeframes for initiating employment verification of employees assigned to a contract apply to such institutions of higher education, State, local and tribal governments, and sureties.

f. Verification of all employees: Upon enrollment, Employers who are Federal contractors with the FAR E-Verify clause may elect to verify employment eligibility of all existing employees working in the United States who were hired after November 6, 1986, instead of verifying only new employees and those existing employees assigned to a covered Federal contract. After enrollment, Employers must elect to do so only in the manner designated by DHS and initiate E-Verify verification of all existing employees within 180 days after the election.

g. Form I-9 procedures for existing employees of Federal contractors with the FAR E-Verify clause: Federal contractors with the FAR E-Verify clause may choose to complete new Forms I-9 for all existing employees other than those that are completely exempt from this process. Federal contractors with the FAR E-Verify clause may also update previously completed Forms I-9 to initiate E-Verify verification of existing employees who are not completely exempt as long as that Form I-9 is complete (including the SSN), complies with

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Article II.C.5, the employee's work authorization has not expired, and the Employer has reviewed the information reflected in the Form I-9 either in person or in communications with the employee to ensure that the employee's stated basis in section 1 of the Form I-9 for work authorization has not changed (including, but not limited to, a lawful permanent resident alien having become a naturalized U.S. citizen). If the Employer is unable to determine that the Form I-9 complies with Article II.C.5, if the employee's basis for work authorization as attested in section 1 has expired or changed, or if the Form I-9 contains no SSN or is otherwise incomplete, the Employer shall complete a new I-9 consistent with Article II.C.5, or update the previous I-9 to provide the necessary information. If section 1 of the Form I-9 is otherwise valid and up-to-date and the form otherwise complies with Article II.C.5, but reflects documentation (such as a U.S. passport or Form I-551) that expired subsequent to completion of the Form I-9, the Employer shall not require the production of additional documentation, or use the photo screening tool described in Article II.C.5, subject to any additional or superseding instructions that may be provided on this subject in the Supplemental Guide for Federal Contractors. Nothing in this section shall be construed to require a second verification using E-Verify of any assigned employee who has previously been verified as a newly hired employee under this MOU, or to authorize verification of any existing employee by any Employer that is not a Federal contractor with the FAR E-Verify clause.

2. The Employer understands that if it is a Federal contractor with the FAR E-Verify clause, its compliance with this MOU is a performance requirement under the terms of the Federal contract or subcontract, and the Employer consents to the release of information relating to compliance with its verification responsibilities under this MOU to contracting officers or other officials authorized to review the Employer's compliance with Federal contracting requirements.

ARTICLE III

REFERRAL OF INDIVIDUALS TO SSA AND DHS

A. REFERRAL TO SSA

1. If the Employer receives a tentative nonconfirmation issued by SSA, the Employer must print the notice as directed by the E-Verify system and provide it to the employee so that the employee may determine whether he or she will contest the tentative nonconfirmation. The Employer must review the tentative nonconfirmation with the employee in private.

2. The Employer will refer employees to SSA field offices only as directed by the automated system based on a tentative nonconfirmation, and only after the Employer records the case verification number, reviews the input to detect any transaction errors, and determines that the employee contests the tentative nonconfirmation. The Employer will transmit the Social Security Number to SSA for verification again if this review indicates a need to do so. The Employer will determine whether the employee contests the tentative nonconfirmation as soon as possible after the Employer receives it.

3. If the employee contests an SSA tentative nonconfirmation, the Employer will provide the employee with a system-generated referral letter and instruct the employee to visit an SSA office within 8 Federal Government work days. SSA will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it

determines that more than 10 days is necessary. The Employer agrees to check the E-Verify system regularly for case updates.

4. The Employer agrees not to ask the employee to obtain a printout from the Social Security Number database (the Numident) or other written verification of the Social Security Number from the SSA.

B. REFERRAL TO DHS

1. If the Employer receives a tentative nonconfirmation issued by DHS, the Employer must print the tentative nonconfirmation notice as directed by the E-Verify system and provide it to the employee so that the employee may determine whether he or she will contest the tentative nonconfirmation. The Employer must review the tentative nonconfirmation with the employee in private.

2. If the Employer finds a photo non-match for an employee who provides a document for which the automated system has transmitted a photo, the employer must print the photo non-match tentative nonconfirmation notice as directed by the automated system and provide it to the employee so that the employee may determine whether he or she will contest the finding. The Employer must review the tentative nonconfirmation with the employee in private.
3. The Employer agrees to refer individuals to DHS only when the employee chooses to contest a tentative nonconfirmation received from DHS automated verification process or when the Employer issues a tentative nonconfirmation based upon a photo non-match. The Employer will determine whether the employee contests the tentative nonconfirmation as soon as possible after the Employer receives it.

4. If the employee contests a tentative nonconfirmation issued by DHS, the Employer will provide the employee with a referral letter and instruct the employee to contact DHS through its toll-free hotline (as found on the referral letter) within 8 Federal Government work days.

5. If the employee contests a tentative nonconfirmation based upon a photo non-match, the Employer will provide the employee with a referral letter to DHS. DHS will electronically transmit the result of the referral to the Employer within 10 Federal Government work days of the referral unless it determines that more than 10 days is necessary. The Employer agrees to check the E-Verify system regularly for case updates.

6. The Employer agrees that if an employee contests a tentative nonconfirmation based upon a photo non-match, the Employer will send a copy of the employee's Form I-551 or Form I-766 to DHS for review by:

- Scanning and uploading the document, or
- Sending a photocopy of the document by an express mail account (paid for at employer expense).

7. If the Employer determines that there is a photo non-match when comparing the photocopied List B document described in Article II.C.5 with the image generated in E-Verify, the Employer must forward the employee's documentation to DHS using one of the means described in the preceding paragraph, and allow DHS to resolve the case.

E-Verify

Company ID Number: 398167

ARTICLE IV

SERVICE PROVISIONS

SSA and DHS will not charge the Employer for verification services performed under this MOU. The Employer is responsible for providing equipment needed to make inquiries. To access E-Verify, an Employer will need a personal computer with Internet access.

ARTICLE V

PARTIES

A. This MOU is effective upon the signature of all parties, and shall continue in effect for as long as the SSA and DHS conduct the E-Verify program unless modified in writing by the mutual consent of all parties, or terminated by any party upon 30 days prior written notice to the others. Any and all system enhancements to the E-Verify program by DHS or SSA, including but not limited to the E-Verify checking against additional data sources and instituting new verification procedures, will be covered under this MOU and will not cause the need for a supplemental MOU that outlines these changes. DHS agrees to train employers on all changes made to E-Verify through the use of mandatory refresher tutorials and updates to the E-Verify User Manual, the E-Verify User Manual for Federal Contractors or the E-Verify Supplemental Guide for Federal Contractors. Even without changes to E-Verify, DHS reserves the right to require employers to take mandatory refresher tutorials. An Employer that is a Federal contractor with the FAR E-Verify clause may terminate this MOU when the Federal contract that requires its participation in E-Verify is terminated or completed. In such a circumstance, the Federal contractor with the FAR E-Verify clause must provide written notice to DHS. If an Employer that is a Federal contractor with the FAR E-Verify clause fails to provide such notice, that Employer will remain a participant in the E-Verify program, will remain bound by the terms of this MOU that apply to participants that are not Federal contractors with the FAR E-Verify clause, and will be required to use the E-Verify procedures to verify the employment eligibility of all newly hired employees.

B. Notwithstanding Article V, part A of this MOU, DHS may terminate this MOU if deemed necessary because of the requirements of law or policy, or upon a determination by SSA or DHS that there has been a breach of system integrity or security by the Employer, or a failure on the part of the Employer to comply with established procedures or legal requirements. The Employer understands that if it is a Federal contractor with the FAR E-Verify clause, termination of this MOU by any party for any reason may negatively affect its performance of its contractual responsibilities.

C. Some or all SSA and DHS responsibilities under this MOU may be performed by contractor(s), and SSA and DHS may adjust verification responsibilities between each other as they may determine necessary. By separate agreement with DHS, SSA has agreed to perform its responsibilities as described in this MOU.

E-Verify

Company ID Number: 398167

D. Nothing in this MOU is intended, or should be construed, to create any right or benefit, substantive or procedural, enforceable at law by any third party against the United States, its agencies, officers, or employees, or against the Employer, its agents, officers, or employees.

E. Each party shall be solely responsible for defending any claim or action against it arising out of or related to E-Verify or this MOU, whether civil or criminal, and for any liability wherefrom, including (but not limited to) any dispute between the Employer and any other person or entity regarding the applicability of Section 403(d) of IIRIRA to any action taken or allegedly taken by the Employer.

F. The Employer understands that the fact of its participation in E-Verify is not confidential information and may be disclosed as authorized or required by law and DHS or SSA policy, including but not limited to, Congressional oversight, E-Verify publicity and media inquiries, determinations of compliance with Federal contractual requirements, and responses to inquiries under the Freedom of Information Act (FOIA).

G. The foregoing constitutes the full agreement on this subject between DHS and the Employer.

H. The individuals whose signatures appear below represent that they are authorized to enter into this MOU on behalf of the Employer and DHS respectively.

E-Verify

Company ID Number: 398167

To be accepted as a participant in E-Verify, you should only sign the Employer's Section of the signature page. If you have any questions, contact E-Verify at 888-464-4218.

Employer **Christopher Professional Enterprises, Inc**	
Maggie Williams	
Name (Please Type or Print)	Title
Electronically Signed	03/07/2011
Signature	Date

Department of Homeland Security – Verification Division	
USCIS Verification Division	
Name (Please Type or Print)	Title
Electronically Signed	03/07/2011
Signature	Date

Information Required for the E-Verify Program

Information relating to your Company:

Company Name:	Christopher Professional Enterprises, Inc
Company Facility Address:	15981 Reid Rd
	Athens, AL 35611
Company Alternate Address:	P.O. Box 247
	Athens, AL 35612
County or Parish:	LIMESTONE
Employer Identification Number:	264407825

E-Verify

Company ID Number: 398167

North American Industry Classification Systems Code:	237
Administrator:	
Number of Employees:	10 to 19
Number of Sites Verified for:	1

Are you verifying for more than 1 site? If yes, please provide the number of sites verified for in each State:

- ALABAMA 1 site(s)

Information relating to the Program Administrator(s) for your Company on policy questions or operational problems:

Name:	Maggie Williams		
Telephone Number:	(256) 232 - 4460	Fax Number:	(256) 232 - 4446
E-mail Address:	mgs2610cpe@yahoo.com		

ATTACHMENT "J"

General Requirements

INSTRUCTIONS TO BIDDERS (PACKAGE 1F – REDSTONE GATEWAY EXTENSION, MARKET STREET, AND OVERLOOK ROAD RELOCATON – UNSECURE AREA)

This contract is to be bid on a lump sum amount basis and all bidders shallinclude in their bids, as a minimum, but not necessarily limit their bids to, the following items:

Instructions common to all package contract scopes:

- Security clearance procedures as required for own staff (coordinated through Brasfield and Gorrie).
- Drawings and specifications reproduction costs as needed.
- Review of project schedule and compliance with all milestone dates as shown in bid documents.
- Layout of work/construction staking for own scope.
- "Red-line" as-builts as defined in the bid documents.
- Highlight work progress "daily" on City of Huntsville (COH) Project Manager's drawings kept on-site in jobsite trailer and submit "Daily Reports".
- Final surveys and certified as-builts will be provided by "others".
- Traffic control and clean-up associated with own scope including all roadways and parking areas (daily cleaning as minimum).
- Trailers, utility hook ups and associated utility costs for own scope as required.
- Telephones, portable toilets, temporary/permanent power, drinking water, ice, cups, and trash dumpsters as needed for own scope.
- Construction water as needed for own scope.
- Unloading and hoisting of own materials for own scope.
- Performance and payment bonds.
- Security of own facilities, equipment, personnel, materials, etc.
- Repairs, cleaning, and replacement of erosion control devices damaged by self and responsibility for associated fines and remedies.
- Temporary seeding or erosion repairs as required for own scope.
- Maintenance and removal of any erosion control or temporary construction items (by the contractor that installed them) once they are established or no longer required.
- Demolition as required for own scope.
- Lighting and other means necessary for nightwork if required.
- Coordination with the work of ALL other packages and any work "by others" (including future packages).
- Access and maintenance to own work areas.
- Dewatering for own scope.
- All labor, materials, equipment, taxes, insurances, supervision, and any other items necessary for execution and timely completion of work for own scope.
- All means and methods and costs associated with encountered rock within cut line as defined in bid documents.

- Identification, verification, and protection of utilities passing through site and ensure that they remain in service at all times or until new utilities are complete and immediate repair if damaged.
- Safely work around/under all existing overhead utility lines and utility poles and coordination with TVA and Redstone Arsenal as required. (Note there are 161kV lines on portions of the site).
- Maintenance and removal of any erosion control devices installed for own scope.
- Avoid existing electrical substation(s) area at all times.
- Pricing breakouts/option pricing as required by COH Project Manager.
- In order to establish additive/deductive unit prices for potential scope changes through duration of project, apparent low bidder(s) will be required to submit a complete schedule of values (with quantities and associated unit prices) within two (2) business days of public bid opening that totals up to the lump sum price that was publicly submitted. An "unbalanced" schedule of values will be considered non-responsive and subject to rejection at the owner's discretion.
- All permits, licenses, right-of-way, and associated costs.
- All notifications, inspections, testing, and certifications, as required, for your scope unless specifically specified as being provided "by others".
- Soils compaction, asphalt, and concrete testing are by Owner.
- Verification and acceptance of project schedule milestone dates in Attachment "A" to Proposal.
- Avoid traffic impacts to existing office buildings, visitor center, and access drives and/or parking areas.
- All safety requirements/plans/meetings associated with own scope of work in accordance with OSHA as a minimum.
- All General and Special Conditions set forth in the Bid Documents.
- All requirements outlined in the Notice to Contractors.
- Repair to any existing items/construction if damaged during the installation of your package.
- Protection of your scope of work through completion and acceptance by Owner.
- Immediate replacement of new construction or existing items if damaged during construction for your scope of work.
- All soil volume measurements shall be bank yards (in place compacted volume).
- Read all other bid packages, instructions to bidders, and scope definitions for this package to ensure proper coordination of your scope.
- Package 1A drawings, specifications, and instructions to bidders (previously bid and awarded: 1A-1 Fence Relocation;1A-2 Mass Grading; Critical Pad Delivery, Preliminary Storm Sewer, and Railroad Spur Demolition; and 1A-3 Intersection Modifications) will be available at the following website for your information while bidding Package 1F-2, 1F-3, and 1F-4 Redstone Gateway Extension, Market Street, and Overlook Road Relocationfor coordination as required:
  http://www.huntsvilleal.gov/engineering/archivedplans.php#r
- Package 1A-5drawings, specifications, and instructions to bidders (previously bid and awarded: 1A-5 Topsoil Removal) will be available at the following website for your information while bidding Package 1F-2, 1F-3, and 1F-4 Redstone Gateway Extension,

Market Street, and Overlook Road Relocation for coordination as required: http://www.huntsvilleal.gov/engineering/bidlist.html and http://www.huntsvilleal.gov/engineering/archivedplans.php#r

- Package 1B drawings, specifications, and instructions to bidders (previously bid and awarded: 1B-1Fine Grading, Erosion Control, Storm, Curb, and Paving; 1B-2Water System; and 1B-3Primary Communication and Primary Electrical Package) will be available at the following website for your information while bidding Package 1F-2, 1F-3, and 1F-4 Redstone Gateway Extension, Market Street, and Overlook Road Relocation for coordination as required: http://www.huntsvilleal.gov/engineering/archivedplans.php#r
- Package 1B-5drawings, specifications, and instructions to bidders (previously bid and awarded: 1B-5 Gravity Sanitary Sewer) will be available at the following website for your information while bidding Package 1F-2, 1F-3, and 1F-4 Redstone Gateway Extension, Market Street, and Overlook Road Relocation for coordination as required: http://www.huntsvilleal.gov/engineering/archivedplans.php#r
- Package 1D-drawings, specifications, and instructions to bidders (previously bid and awarded: 1D Rail Spur Installation/Relocation) will be available at the following websites for your information while bidding Package 1F-2, 1F-3, and 1F-4 Redstone Gateway Extension, Market Street, and Overlook Road Relocation for coordination as required: http://www.huntsvilleal.gov/engineering/archivedplans.php#r
- Package 1G-drawings, specifications, and instructions to bidders (previously bid and awarded: 1GLandscape, Irrigation, and Hardscape) will be available at the following websites for your information while bidding Package 1F-2, 1F-3, and 1F-4 Redstone Gateway Extension, Market Street, and Overlook Road Relocation for coordination as required: http://www.huntsvilleal.gov/engineering/bidlist.html and http://www.huntsvilleal.gov/engineering/archivedplans.php#r
- Package 1F-drawings, specifications, and instructions to bidders (previously bid and awarded: 1F-1 Mass Grading, Critical Pad Delivery, Fine Grading, Erosion Control, Storm, Curb, and Paving) will be available at the following websites for your information while bidding Package 1F-2, 1F-3, and 1F-4 Redstone Gateway Extension, Market Street, and Overlook Road Relocation for coordination as required: http://www.huntsvilleal.gov/engineering/bidlist.html and http://www.huntsvilleal.gov/engineering/archivedplans.php#r
- Read all responses to questions during bid process.
- Cooperation/coordination with Owner and Owner's agents (to include) the geotechnical engineer, project engineer, and COH project manager.
- Coordination with Huntsville Utilities, TVA, and or their contractors as required.
- Review/Coordinate with all Contractors.

Work By Others (either separate contract or by utility companies)

- Packages: 1A-1 Fence Relocation; 1A-2 Mass Grading, Critical Pad Delivery, Preliminary Storm Sewer, and Railroad Spur Demolition (Entire Unsecure Phase 1); and 1A-3 Intersection Modifications.
- Package 1A-5 Topsoil Removal for Package 1A only.

- Packages: 1B-1 Fine Grading, Erosion Control, Storm, Curb, and Paving; 1B-2 Water System; and 1B-3 Primary Communication and Primary Electrical Package.
- Package: 1B-5 Gravity Sanitary Sewer.
- Package: 1D – Rail Spur Installation/Relocation.
- Package 1G – Landscaping, Irrigation, and Hardscape.
- Package 1F-1 Mass Grading, Critical Pad Delivery, Fine Grading, Erosion Control, Storm, Curb, and Paving.
- Geotechnical testing.
- Concrete and asphalt sampling and construction testing.
- Certified "as-built" drawings. (Contractor has "red line" as-built responsibility.)
- TVA primary power distribution.
- Gas installation.
- Project benchmarks, building corner layout, and building pad certification.
- Sewer Impact Fees.
- 639 Plow Zone Area testing (coordination may be required).
- Sanitary force main and pump station installation.
- Building construction.

Package 1F-1: Mass Grading, Critical Pad Delivery, Fine Grading, Erosion Control, Storm, Curb, and Paving. ***This contract is to be bid on a lump sum amount basis and all bidders shall include in their bids, as a minimum, but not necessarily limit their bids to, the following items(Previously Bid and Awarded):***

- Redstone Arsenal Security Clearance procedures are required for this package of work. Base security rules/regulations will be in effect due to concurrent jurisdiction.
- Coordination with Redstone Arsenal and assurance that proper security is maintained at all times including all responsibility for any fines, penalties and /or imprisonment for improper coordination or not complying with Redstone Arsenal security procedures/direction.
- Installation of proposed security fence as shown on plans.
- Installation of temporary and/or non-secure fencing if required.
- Removal of existing fences as shown on the project plans in accordance with Redstone Arsenal security procedures/requirements and proper storage on-site at an Owner specified location.
- Replacement of any removed and/or damaged fence and responsibility of associated base security requirements.
- All demolition and proper off-site removal as required.
- NPDES/ADEM permits have been obtained and are held by L.W. Redstone (Developer).
- Associated NPDES/ADEM monitoring and formal reporting will be provided by City of Huntsville Project Manager.
- Contractor is responsible for all required daily reports/own daily monitoring and will be responsible for any fines and /or remedies associated with any lack of compliance if such occurs for own scope.
- All erosion control installation as referenced and/or defined in the project specifications and as shown on drawings including maintenance and upkeep until own contract has been completed, accepted, and approved by owner (Including sediment removal/de-mucking as required).
- Protection of all trees and existing utilities and/or utility poles to remain.
- Removal of all erosion control devices installed for own scope of work upon stabilization of site and acceptance by owner.
- Mass/FineGrading +/- 0.10' of finish grades per grading plans as defined in the project specifications. Verification of finish grade by COH Project Manager (one-time only). Any additional re-verification/survey cost will be at contractor's expense.
- Utilize approximately 30,000/cy of structural fill material located on South end of the EUL project as structural fill to be placed in Package 1F fill areas.
- Compaction requirements as defined in the contract documents.
- All demolition and proper off-site removal as required for own scope.
- Demolition of Overlook Road and proper off-site removal as required.
- Installation, maintenance, and removal (if required) of gravel construction entrance and construction access drives as needed for own scope.
- Relocate, remove, or abandon existing utilities as required per contract documents.
- All proof rolling, visual testing, test pits, or excavation as required by the geotechnical engineer. (This includes excavation for proctor samples).

- Clear, grub, grind, and remove off-siteas needed for own scope.
- Stripping, proper stockpiling, and re-spreading (min. 4" thick) of topsoil for all areas with exception of designated building pads and infrastructure boulevards/roadways as shown on project plans.
- Off-site removal of any excess topsoil.
- Coordinate with Package 1F-4 Contractor and stockpile approximately 40,000 cy oftopsoil needed for landscape mounding only. Note Package 1F-1 Contractor must respread topsoil to top of curb as shown on drawings.
- Backfill medians with topsoil as shown on typical roadway sections.
- All organic material to be removed and replaced as part of unclassified excavation regardless of defined cut line.
- Work with owner to balance site throughout the construction process (Site design is intended to be a balanced site). In addition, utility spoils to be incorporated in overall cut/fill requirements.
- Separating, sorting, staging, and/or proper stockpiling of material based on constructability requirements as defined in project documents or as per direction of on-site geotechnical engineer (ex. stockpile and/or separate high CH material for use as clay liner in future ponds).
- Any material that is deemed "unsuitable" by the geotechnical engineer within the project "cut line" (as defined per plans/specifications) shall be removed, stockpiled at an on-site location designated by owner and replaced with structural fill from a designated on-site location at the contractors expense.
- Any material deemed "unsuitable" by the geotechnical engineer below the designated "cut line" (defined subgrade per specifications) will be removed and replaced. Payment will utilize included unit price allowance provided on proposal form.
- Any material deemed "unsuitable" by the geotechnical engineer that has become unsuitable due to improper erosion control, dewatering or construction methods shall be removed and properly replaced with structural material at no additional cost to the owner.
- Should material having high moisture content be deemed as "suitable" by the geotechnical engineerwithin the defined "cut line", the prime contractor will be required to moisture condition/lime stabilize this material at no additional cost to the Owner. (The geotechnical report indicates "the existing moisture content of the soils range from 22% to 37%. The optimum moisture content determined for the two proctor tests were 21% and 23%, indicating that the in-place soils are currently above the optimum moisture content.")
- Storm sewer system as shown.
- Sanitary sewer system as shown.
- Installation of Redstone Arsenal water main relocations as identified on sheets C11.0 to C11.4.
- Installation of Redstone Arsenal power and I3MP duct bank relocations as identified on sheets C11.0 to C11.4.
- Any necessary temporary means to ensure uninterrupted use of existing sanitary sewer.
- Proper drainage and/or associated dewatering of site throughout construction.
- Install and maintain all-weather access roads and laydown areas as shown on the drawings and as needed for own scope.

- Coordination with other contractors and overall project schedule with regards to open ditches, laybacks, and timing of work by others.
- Custom manhole covers per project specifications.
- Coordination and cooperation with sanitary gravity main installation (Package 1B-5 Gravity Sanitary Sewer), future COH sanitary force main and pump station installation and other future utility installation which may be awarded prior to completion of this package.
- Rock removal and placement as required to "cut line" as defined in the bid documents.
- Curb and gutter, curb drainage system, flumes, and base under curb and gutter as required.
- Permanent and temporary base, binder, asphalt paving, and associated construction phasing as needed.
- Cleaning/preparation as needed for multiple asphalt lift installations.
- Additional mobilizations and/or any other measures needed for access roads and ensuring all traffic/access to new buildings and visitor's center is coordinated per Redstone requirements.
- Milling, saw-cutting, patching, and repairing as needed for proper tie-in and new construction.
- Curb inlet tops and throats as required.
- Concrete paving and crosswalks as required.
- Pavement markings including marking shown on the traffic striping drawings.
- All permanent signage and striping.
- Temporary signage, temporary striping, and traffic control for own scope.
- Any and all means of "off-site" and "on-Site" pedestrian and traffic control for own scope while present at site.
- Finish grading and seeding (seed mix specified in specifications) on all disturbed and temporary stockpiled areas as required.
- Irrigation sleeves.
- Domestic/fire water systems are by package 1F-2 Contractor as identified on sheets C12.0.
- Primary Communication and Primary Electrical Service by Package 1F-3 Contractor as identified on sheets C11.5, C11.6, C12.1, E01, and E1.0.
- Landscaping, irrigation, and sidewalks by Package 1F-4 Contractor.
- Removal and proper off-site disposal of all abandoned or designated power, cable, telephone, sewer, water, and other utilities in conflict with these improvements and all associated coordination with utility companies as shown on project plans.
- Removal and proper off-site disposal of existing rail spur and appurtenances.

Package 1F-2: Water System. ***This contract is to be bid on a lump sum amount basis and all bidders shall include in their bids, as a minimum, but not necessarily limit their bids to, the following items:***

- Redstone Arsenal security clearance procedures are NOT required for this package of work. However, base security rules/regulations will be in effect due to concurrent jurisdiction.
- Erosion control and maintenance as needed for own scope including all responsibility for fines and/or remedies associated with lack of compliance if such occurs for own scope.
- NPDES/ADEM monitoring and formal reports will be provided by COH Project Manager.
- Removal of own erosion control devices upon package completion and acceptance.
- Water tap fees are by others.
- Valve pits/detector check valves/backflow preventers and vaults as shown on drawings.
- Installation of materials noted on Huntsville Utilities Water System ATC Material List as provided by Huntsville Utilities and noted on the Package 1F-2 Attachment "B" Proposal Form.
- Coordinate with Huntsville Utilities and pick up of all ATC materials at location designated by Huntsville Utilities.
- Thrust blocks, appurtenances, and any other items needed to complete own scope that are not furnished by Huntsville Utilities.
- Temporary water, temporary meters and associated usage fees as needed for own scope.
- Utility markers as required.
- Stone bedding/backfill requirements as specified in contract documents.
- Patch, repair and/or replace any existing infrastructure that is disturbed by self.
- Unclassified excavation as defined in the project documents.
- Protect and adjust valve covers as required and coordinate adjustments with others.
- All items, including but not limited to traffic control, erosion control, demolition, utility relocation, grading, storm drainage, saw cutting, existing visitor center drives, and parking areas.
- Any and all means of "off-site" and "on-site" pedestrian and traffic control for own scope while present at site.

Package 1F-3: Primary Communication and Primary Electrical Package. ***This contract is to be bid on a lump sum amount basis and all bidders shall include in their bids, as a minimum, but not necessarily limit their bids to, the following items***

- Coordination with Redstone Arsenal and assurance that proper security is maintained at all times, including all responsibility for any fines, penalties, and/or imprisonment for non-compliance with Redstone Arsenal Security procedures and/or their direction.
- Removal and replacement of security fence as needed for own scope.
- Erosion control and maintenance as needed for own scope and including all responsibility for fines and remedies associated with lack of compliance if such occurs for own scope.
- NPDES/ADEM monitoring and formal reports will be provided by COH project manager.
- Removal of erosion control devices upon package completion and acceptance.
- Installation of all primary communication and primary electrical conduit, manholes, pull boxes, meter boxes, etc. as defined in the project plans.
- Pole bases.
- Housekeeping pads, and other concrete related to this package.
- Installation of materials listed below:

  Materials furnished under the infrastructure Distribution ATC fee:
  - S3 Cabinets and Bases
  - 750 Cabinets and Bases
  - Single Phase Transformers and Bases
  - Switch Cabinet Components and Bases
  - Primary Cable & Installation

  As provided by Huntsville Utilities Distribution Infrastructure ATC noted on the Package 1F-3 Attachment "B" Proposal Form.

- Contractor will install all street light conduit and meter bases per Huntsville Utilities (HU) specifications. Contractor will also be responsible for installing all street light materials including street light cable, Owner provided auger foundations, poles, and LED fixtures. HU will make the final connections at the source (transformer).
- Coordinate with Huntsville Utilities and pick up of all ATC materials at location designated by Huntsville Utilities and/or Owner.
- Any other materials needed to complete own scope that are not furnished by Huntsville Utilities.
- Landscape lighting is not included in this package.
- Cutting and patching as required prior to wearing surface installation.
- Temporary power for own scope and equipment testing as needed.
- Bedding, backfill, and concrete encasement as required per plans and specifications.
- Stone bedding/backfill requirements as specified in contract documents.
- Patch, repair and/or replace any existing infrastructure that is disturbed by self.
- Unclassified excavation as defined in the project documents.
- All items, including but not limited to traffic control, erosion control, demolition, utility relocation, grading, dewatering, and saw-cutting as required for own scope of work.

- Any and all means of "off-site" and "on-site" pedestrian and traffic control for own scope while present at site.
- Coordination with all contractors, Huntsville Utilities, Redstone Arsenal, and TVA as required.
- All electrical and communications conduit by Package 1F-3 Contractor.

Package 1F-4: Landscaping, Irrigation, and Hardscape Package. ***This contract is to be bid on a lump sum amount basis and all bidders shall include in their bids, as a minimum, but not necessarily limit their bids to, the following items***

- Redstone Arsenal Security Clearance procedures are NOT required for this package of work. However, base security rules/regulations will be in effect due to concurrent jurisdiction.
- Maintenance and removal of any erosion control devices installed for own scope.
- NPDES/ADEM permits have been obtained and are held by L.W. Redstone (Developer).
- Associated NPDES/ADEM monitoring and formal reporting will be provided by The City of Huntsville Project Manager.
- Contractor is responsible for all required daily reports/own daily monitoring and will be responsible for any fines and/or remedies associated with any lack of compliance, if such occurs, for own scope.
- All erosion control installation as referenced on drawings and/or defined in the project specifications as shown on drawings and including maintenance and upkeep until own contract has been completed, accepted, and approved by Owner (including sediment removal/de-mucking, as required).
- Grading +/- 0.10' of finish grades per grading plans and as defined in the project specifications. Verification of finish grade by COH Project Manager (one-time only). Any additional re-verification/survey cost will be at Contractor's expense.
- Compaction requirements as defined in the contract documents.
- Any scarifying or loosening of existing soils as required for own scope (Existing grade will be left at 98% compaction from previous grading procedures).
- All demolition and proper off-site removal as required for own scope.
- Replacement of any damaged fence and responsibility of associated base security requirements.
- Unless Package 1F-4 Contractor identifies specific deficiencies at the time of approval and verification by COH Project Manager prior to work turnover, Package 1F-4 Contractor is deemed to have accepted material and final grades installed by Package 1F-1 Contractor (Mass Grading, Critical Pad Delivery, Fine Grading, Erosion Control, Storm, Curb, and Paving Package).
- Coordination with other contractors and overall project schedule with regards to open ditches, laybacks, and timing of work by others.
- Proper drainage and/or associated dewatering of site throughout construction.
- Install and maintain all-weather access roads and/or laydown areas and as needed for own scope.
- All landscape boulders and landscape berms.
- Fountain(s).
- Utilization of on-site topsoil stockpiles for mounding, Boulevard medians, and as required for own scope.
- Screening of topsoil (from on-site existing stockpile) as needed. Refer to roadway typical section for topsoil placement at the medians.
- All sodded areas to receive 4" topsoil.
- All plant beds to receive 6" topsoil.

- Site lighting work "by others."
- Concrete sidewalks, handicap ramps, and associated saw cutting as required.
- Signage and stripping are "by others."
- Any and all means of "off-site" and "on-site" pedestrian and traffic control for own scope while present at site.
- Ornamental grasses, sod, shrubs, plants, ground cover, and tree installation.
- Earth/topsoil mounding at sidewalks.
- Establishment and maintenance until completion and acceptance of entire scope by Owner.
- Landscape Warranty per project plans and specs (minimum one (1) year).
- Irrigation System Warranty per project plans and specs (minimum two (2) years).
- All irrigation sleeves, main lines, heads, drip lines, controllers, valves, taps, meters, etc. required to complete system installation.
- Secondary electrical and power distribution as required for power to irrigation equipment and controllers by Package 1F-3 Contractor (Primary Communication and Primary Electrical Package).
- Temporary power as required to provide irrigation during construction.
- Mulching and edging in and around landscape beds.
- Finish grading and seeding on all disturbed and stockpiled areas, as required.
- Demolition as required for own scope of work.
- Temporary utility installation, utility usage fees, and all maintenance as required for own scope until completionand final acceptance of own scope by Owner.
- One (1) year maintenance of entire landscape and irrigation system (including annuals) to be provided as Option 4-1 on the bid form.
- Installation of all annuals for this bid package shall be broken out separately as Option 4-2 on the bid form.
- One (1) year landscape maintenance per Installation Integrated Pest Management Plans for United States Army Garrison – Redstone document to be provided as Option 4-3 on the bid form.

END OF INSTRUCTIONS TO BIDDERS

ATTACHMENT "K"

Special Conditions

These Special Conditions amend and supplement other provisions of the Contract Documents as indicated below:

1. PROJECT MANAGEMENT DESIGNATION AND CONDITIONS

1. The Owner has designated Brasfield & Gorrie, LLC as Project Manager ("PM") for the project. PM will act as Owner's agent with respect to the Owner's rights and authority under the Contract. A copy of the Project Managers contract with the City of Huntsville is available upon request. Contractor shall at all times provide first quality, new materials (unless otherwise specified in the Contract Documents) and workmanship conforming to the Contract requirements. Contractor shall at all times provide proper facilities and an opportunity for the inspection of the Work by PM, Engineer and Owner and their representatives. Contractor shall, within twenty-four (24) hours after receiving written notice from PM or Engineer, proceed to takedown and remove all portions of the Work which PM or Engineer shall have condemned as unsound, improper, or in any way failing to conform to the Contract Documents or this Contract and shall replace the same with proper and satisfactory Work and make good all work damaged or destroyed thereby. PM's failure to discover or notify Contractor of defective or nonconforming Work at the time the Work, or any portion thereof, is performed or completed shall not relieve Contractor of full responsibility for replacement of the defective or nonconforming Work and all damages resulting there from.
2. PM shall not be liable or responsible for loss or damage to the equipment, tools, facilities, or other personal property owned, rented, or used by Contractor, or anyone employed by or through Contractor, in the performance of the Work; and Contractor shall maintain such insurance and take such protective actions Contractor deems desirable with respect to such property. Contractor shall take all reasonable precautions to protect the Work from loss or damage prior to acceptance by Owner.

2. COMMUNICATIONS FACILITATING CONTRACT ADMINISTRATION

1. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall communicate through the Project Manager, who shall contemporaneously provide the same communications to the Engineer. Communications from the Engineer to Contractors will be through the Project Manager. Communications by and with the Engineer's consultants shall be through the Engineer. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with other Contractors shall be through the Project Manager and shall be contemporaneously provided to the Engineer.

3. SCHEDULE

1. The Contractor shall:

a) Submit to the Project Manager, within ten (10) days of the date of commencement stated in the Notice to Proceed, a proposed, comprehensive, and detailed schedule for their Work which complies with the schedule milestones provided. This schedule shall be in sufficient detail for Project Manager's use in preparing an overall progress schedule that coordinates the entire work, its several parts under the Contract and the work of the Owner and separate contractors. The exact format will

b) Be adjusted for each Contractor based upon such relevant factors as: duration, complexity, number of prime contracts, anticipated critical delivery items, critical project deadlines and/or milestones, etc. No individual schedule activity may have a duration longer than 10 working days.

c) Begin the Work promptly upon Project Manager's order to do so.

d) Coordinate and perform the Work, and its several parts, diligently and promptly and in such order and sequence as Project Manager may from time to time direct and as will assure its efficient work and its several parts under the Contract.

d) Furnish at all times sufficient, qualified and competent forces and supervision, materials, equipment, supervision, tools and other necessary things, to achieve progress according to current project schedule

2. Without limiting the generality of the foregoing, Contractor shall:

a) Submit, with its proposed schedule, information showing the time required to prepare and approve shop drawings, to fabricate and deliver materials and equipment, and to install the Work.

b) Order (for manufacture or purchase and delivery) all materials required for performance of the Work as soon as possible in order to avoid delays caused by strikes, transportation or unavailability.

c) Furnish Project Manager within thirty (30) days of the Notice to Proceed a list of major materials and equipment required for the work, showing the name, address and telephone number of the supplier and the date on which such material and equipment is expected to be delivered to the Project site.

d) Furnish Project Manager, upon issuance, a copy of each major purchase order and subcontract (with price information deleted).

e) Cause a qualified supervisory representative (while Contractor has forces at the Project site and for two weeks prior thereto) to attend weekly progress meetings.

f) Notify Project Manager immediately by telephone and confirm in writing within seventy-two (72) hours, if Contractor finds that any item cannot be delivered or performed as required to maintain the progress schedule.

3. Contractor also agrees to be bound by such modifications to the Project schedule as arediscussed at the weekly job progress meetings and/or are contained in the minutes of those meetings unless written objection is made by Contractor within forty-eight (48) hours of the occurrence of such meeting. In the event that the Contractor falls behind the current schedule, the Contractor agrees to perform in accordance with Project Manager's recovery schedule until such condition has been eliminated.

4. The Contractor shall include in their bid any necessary cost for any overtime work resulting from shutdowns, limitation on work hours or other requirements of the Contract Documents. No claim for additional cost to the Owner, or extension of time for construction, will be considered for requirements included in the Contract Documents.

5. Float within the construction schedule is not for the exclusive use or benefit of the Contractor or Owner. Rather, it is available to both parties as needed to meet contract milestones and completion dates. Therefore, no time extensions will be granted until a delay occurs which will impact the works' critical path, consumes all float time available, and extend the Work beyond the contract completion date. Furthermore, no extension of contract time will be granted for Owner delays concurrent with delays by the Contractor.

4. PM SAFETY PROGRAM

1. GENERAL

a. Safety is a critical requirement of this contract. As such, the safe performance ofwork by the Contractor and its subcontractors is a contract requirement. Failure by the Contractor or its subcontractors to work safely shall be viewed as a failure to execute contract requirements.

b. As a specialist in its field of work, the Contractor accepts complete responsibility for performing its work safely. This includes sole responsibility for the health and safety of its employees, agents, subcontractors (and their employees) and any other person on or adjacent to the area. Contractor shall comply with all current laws, codes, ordinances, rules, regulations, standards and requirements of applicable public and private agencies and authorities ("Laws"). Contractor must take all measures and safeguards necessary to protect: (1) employees, (whether or not working for the Contractor), (2) employees and agents of Owner, the Project Manager and otherContractors, (3) members of the general public and (4) public and private property.

c. The Owner, its Project Manager, and the Contractor recognize that the Contractor isan independent contractor, with responsibility for its means and methods andthe safety of its workers and that the Owner, or its Project Manager, are not intended to be and shall not be considered an employer of Contractor's employees. As such, it shall be Contractor's duty to monitor the performance and practices of its employees and subcontractors for safety, to insure that the practices and methods ofperforming the work are safe and to immediately stop any unsafe practices by its employees or its second or subsequent tier subcontractors ("subcontractors") or their employees.

d. Contractor accepts complete responsibility for compliance with all applicableLaws,relating to health or safety, including, but not limited to the OccupationalSafety and Health Act of 1970, as amended, and the regulations and standards of the Occupational Safety and Health Administration and similar state agencies("OSHA") ("Health and Safety Laws"). In exchange for one hundred dollars ($100.00) and other good and valuable consideration, the amount of which is included in the Price, Contractor agrees to defend, indemnify and hold harmless The Owner and its Project Manager and their officers, directors, agents and employees from and against any loss, liability, expense (including attorneys' fees), citations, assessments, fines or penalties resulting from any citation for, allegation of or violation of any Health or Safety Laws attributable in whole or part to the acts or omissions of Contractor, its subcontractors or their agents or employees.

e. All obligations and requirements of "Contractor" in this document also apply to Contractor's subcontractors. No person or entity performing work for or on behalf of Contractor is excluded from compliance.

END OF SPECIAL CONDITIONS

Appendix

Download the geotechnical report from the City of Huntsville website at
http://www.huntsvilleal.gov/engineering/bidlist.html

Supplement to General Requirements

SUPPLEMENT TO GENERAL REQUIREMENTS
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SUPPLEMENT TO GENERAL REQUIREMENTS

1. GENERAL

The attention of all bidders is called to Code of Alabama §§ 34-8-1 and 34-8-2 (1975) AND 34-8-1, 34-8-2, 34-8-4, 34-8-6, 34-8-7, 34-8-8 AND 34-8-9 (AMENDED 1996) setting forth the definition of general contractor and the licensing procedures and requirements for state licensing. No one is entitled to bid and no contract may be awarded to anyone who does not possess a valid general contractor's license and the required classification for the municipal type work to be performed. The general contractor's State of Alabama license and classification must appear on the outside of the bid envelope along with the general contractor's name and address, project name and number and date and time of bid opening. Failure to provide this will be cause to reject the bid.

In determining the successful bidder, the Owner will consider in addition to the bid prices, such responsibility factors as characteristics and responsibility, skill, experience, record of integrity in business, and of performance offered and past record of performance on Owner contracts on other similar projects. Any factors not specifically mentioned or provided for herein, in addition to that of the bid price which would affect the final cost to the Owner, will be taken into consideration in making award of contract. The right is reserved to reject any bid where investigation of the business and technical organization of the bidder available for the contemplated work, including financial resources, equipment, and experience on similar projects does not satisfy the Owner that such bidder is qualified to perform the work. The City Council of the City of Huntsville reserves the right to reject any and all bids and to waive informalities.

Separate sealed bids for the construction of this project shall be accompanied by Bid Bond in the amount of five percent (5%) of the amount of the bid not to exceed $10,000.00. No bidder may withdraw his bid within ninety (90) days after the actual date of opening. These specifications, the supplemental specifications, the plans, special provisions and all supplementary documents are essential parts of the contract, and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to describe and provide for a complete work. Contract Document Order of Precedence shall be as follows:

1. Addendums
2. General Requirements (Instructions to Bidders and Bid Proposal, including Attachments)
3. Supplement to General Requirements
4. Drawings
5. Supplemental Specifications
6. Special Conditions
7. Current ALDOT Specifications

All bid openings and any scheduled pre-bid conferences are open to the public and will be held in the Public Services Conference Room on the 1st Floor at 320 Fountain Circle unless otherwise noted.

All references to OWNER shall mean City of Huntsville, Alabama. All references to City Engineer shall mean OWNER. All references to Project Manager shall mean Brasfield and Gorrie.

2. PROPOSAL PREPARATION

(A) Proposal Form. The bidder's proposal must be submitted on the complete original proposal form furnished him by the City. Unless otherwise provided in the proposal, joint venturers may submit a proposal for a joint venture of qualified bidders on a proposal form issued to one of them, provided each venturer has taken out a proposal and provided the proposal is signed by each co-venturer.

(B) Details. On the proposal form, the bidder shall enter in words and numbers the amount bid for each item of work.If options are shown on the proposal forms, those options shall be bid. For items bid on a unit price basis, extend the amount bid (unit price x quantity) in the appropriate column for each bid item. On lump sum items an entry shall be shown in the amount bid column for each item. If a bidder wishes to bid an item at no cost, then he shall enter 0 (zero) in both the unit price column and amount bid column. After all extensions are made, the bidder shall total the extended amounts of the bid items and show his total bid

amount in the appropriate place on the proposal form. All figures shall be legibly shown in ink or typed. Any interlineations, erasure or other alteration of a figure shall be initialed by the signer of the proposal. The City will check the extension of each item given in the proposal and all math to ensure that it is a responsive bid. In case of a discrepancy between a unit bid price and the extension amount, the unit price will govern. In the case of a discrepancy between words and numbers, words shall govern. The undersigned bidder further understands that any deletions or additions designated on the outside of the bid envelope must indicate the particular bid item relative to the deletion or addition, even if the deletion or addition references to deduct or add to the Total Base Bid. If prequalified to bid on a package, bidders may bid any one or any combination of packages.

(C) Signing. The bidder's proposal must be signed with ink by the individual, by one or more members of the partnership, by one or more members or officers of each firm representing a joint venture, or by one or more officers of a corporation or by an agent of the Contractor legally qualified and acceptable to the City. If the proposal is made by an individual, his name and post office address must be shown; by a partnership, the name and post office address of each partnership member must be shown; as a joint venture, the name and post office address of each member or officer of the firms represented by the joint venture must be shown; by a corporation, the name of the corporation and the business address of its corporate officials must be shown. The proposal bid bond, if bid bond is tendered, shall be properly signed by the bidder and the surety.

(D) Irregular Proposals. Proposals will be considered irregular and will be rejected if they contain any omissions, alteration of form, additions not called for, incomplete bids (includes failure to enter a unit bid price on a bid item or, in the case of an option, the option being bid by the Contractor), interlineations, erasures or alterations not initialed by the person signing the proposal, or other irregularities of any kind. Bids that are not signed will be considered non-responsive and will be rejected.No proposal will be opened that does not contain the contractor's Alabama State license number. Proposals may be rejected at any time prior to the execution of the contract. Any bidder using the same or different names for submitting more than one proposal upon any project will be disqualified from further consideration on that project.

(E) Delivery of Proposals.Bids shall be placed in a sealed envelope and be clearly identified on the exterior of the package with the bidder's name, address, State license number, the project name and project number, the number of the package being bid, and time and place of the bid opening. Sealed bids shall be properly identified.Proposals will be received by the OWNER or his representative unless otherwise provided until the hour and date set in the Notice to Contractors for the opening thereof. No proposal will be considered which has not been received prior to the hour and date set for the opening of bids. Proposals received after that time will be returned. No proposal will be opened that does not contain the contractor's Alabama State license number.

3. QUANTITIES

The undersigned bidder understands that when unit prices are called for, the quantities shown herein are approximate only and are subject to increase or decrease, and offers to do the work whether the quantities are increased, or decreased, at the unit prices stated in the proposal. Any substantial changes requiring an increase must be approved by change order prior to work and authorized by City Council Action. The undersigned bidder also understands that when lump sum bids are called for, he will be required to furnish all equipment, labor, material and other items or cost to construct a complete facility.

4. CHANGE ORDERS

(A) Changes in the Work

Without invalidating the agreement, the OWNER may, at any time or from time to time, order additions, deletions or revisions in the work; these will be authorized by change orders. Upon receipt of a change order, the contractor will proceed with the work involved. All such work shall be executed under the applicable conditions of the contract documents. A change order signed by the contractor indicates his agreement.

The OWNER may authorize minor changes or alterations in the work not involving extra cost or time and not inconsistent with the overall intent of the contract documents. These may be accomplished by a field order.

Additional work performed by the contractor without authorization of a change order will not entitle him to an increase in the contract price or an extension of the contact time, except in the case of an emergency and only then if otherwise justified.

The OWNER will execute appropriate change orders prepared by the Project Manager covering changes in the work to be performed and work performed in an emergency and any other claim of the contractor for a change in the contract time or the contract price which shall be approved by the OWNER.

It is the contractor's responsibility to notify his surety of any changes affecting the general scope of the work or change in the contract price and the amount of the applicable bonds shall be adjusted accordingly. The contractor will furnish proof of such adjustment to the OWNER.

(B) Change of Contract Price.

The contract price may only be changed by a change order. Any claim for additional compensation shall be based on written notice delivered to the Owner and Project Manager within ten days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within twenty days of such occurrence unless OWNER allows an additional period of time to ascertain more accurate data. The contract price constitutes the total compensation payable to the contractor for performing the work. All duties, responsibilities and obligations assigned to or undertaken by the contractor shall be at his expense without changing the contract price. The OWNER may at any time without notice to the sureties, by written order designated or indicated to be a change order, make any change in the work within the general scope of the contract, including but not limited to changes: (1) in the specifications (including drawings and designs); (2) in the method or manner of performance of the work; (3) in the OWNER-furnished facilities, equipment, materials, services, or site; or (4) directing acceleration in the performance of the work. Any other written order or an oral order from the OWNER which causes any such change, shall be treated as a change order under this clause, provided that the contractor gives the OWNER written notice stating the date, circumstances, and source of the order and that the contractor regards the order as a change order.

(C) Change in the Contract Time.

The contract time may only be changed by a change order. Any claim for an extension in the contract time shall be based on written notice delivered to the OWNER and Project Manager within ten days of the occurrence of the event giving rise to the claim. Notice of the extent of the claim with supporting data shall be delivered within forty-five days of such occurrence unless OWNER allows an additional period of time to ascertain more accurate data. All claims for adjustment in the contract time shall be determined by OWNER if OWNER and contractor cannot otherwise agree. Any change in the contract time resulting from any such claim shall be incorporated in a change order. The contract time will be extended in an amount equal to time lost due to delays beyond the control of contractor if he makes a claim as provided above. Such delays shall include, but not be restricted to, acts or neglect by any separate contractor employed by owner, fires, floods, labor disputes, epidemics, abnormal weather conditions, or acts of God.

All time limits stated in the contract documents are of the essence of the agreement. No claim for delay shall be allowed because of failure to furnish drawings until two weeks after demand for such drawings and not then unless such claim be reasonable.

(D) Time extension for abnormal weather conditions.

In order for the OWNER to award a time extension for abnormal weather, the following conditions must be satisfied:

1. The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

2. The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without fault or negligence of the contractor.

The following table of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) and similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractors normal progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities. The contractor's bid shall include the impact of the anticipated lost days in his quotation for the time he is to be on site.

Monthly anticipated adverse weather delay work days based on (5) day work week

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
11	8	6	4	4	5	6	4	4	3	4	8

Actual adverse weather delay days must prevent work on critical activities for 50% or more of the contractors scheduled work day before it is considered a weather delay day.

5. MAINTAIN OFFICE

The successful contractor shall establish an office in Huntsville, Alabama, with telephone service, and shall maintain close liaison with the OWNER.

6. SUBCONTRACTORS

The prime contractor shall be responsible for all work covered under the executed contract; therefore, this responsibility cannot be shifted by subcontracting the work to others. All subcontractors shall be approved by the OWNER and shall be properly licensed as required by Alabama State Law. (Code of Alabama §§ 34-8-1 and 34-8-2 (1975) AND 34-8-1, 34-8-2, 34-8-4, 34-8-6, 34-8-7, 34-8-8 AND 34-8-9 (AMENDED 1996)) A list of all subcontractors proposed for use on the project shall be provided to the OWNER at the time that bids are received. This document will be known as ATTACHMENT "C". Lien waivers will be required from all subcontractors at the time of submittal of the final payment request.

7. BID BOND

Accompanying this proposal is a certified check or bid bond payable to the City of Huntsville, Alabama in the amount of not less than five percent (5%) of the total amount shown on the proposal form(s) for the base bid(s) but not exceeding $10,000.00. The check or bid bond shall be forfeited as liquidated damages if, in the event that his proposal is accepted, the undersigned shall fail to execute the contract and furnish a satisfactory contract bond under the conditions and within the time specified in this proposal. Otherwise, said certified check or bid bond will be returned to the undersigned.

8. PERFORMANCE AND PAYMENT BONDS

All bonds must be approved by the Mayor and the Clerk-Treasurer of the City of Huntsville. Within fifteen (15) days after the date of acceptance of this proposal by City Council action, the contractor shall execute the contract and furnish to the OWNER, a payment (labor and material) bond and a performance bond, in the amount of 100% of the contract amount.

9. LIABILITY INSURANCE (ALSO SEE SECTION 24 FOR ADDITIONAL INSURANCE/INDEMNIFICATION REQUIREMENTS.)

The Contractor shall provide and maintain comprehensive general public liability insurance protecting the Contractor and the City against claims arising out of or resulting from the Contractor's operation under his contract for personal injury or property damage with minimum combined single limits of $2,000,000, whether such operations are performed by himself or by anyone directly or indirectly employed by them. In addition, a copy of the policy may be requested upon award. Certificates of insurance acceptable to the City shall be filed with the City prior to commencement of work and said certificate shall provide that policies will not be altered or canceled until at least 30 days prior written notice has been given to the City.

Certificates of Insurance are required naming the City as the Certificate Holder. The Certificates should reflect the insurance coverage required herein. The Certificates are to be signed by a person authorized by the Insurer to bind coverage on its behalf and must indicate coverage will not be canceled or non-renewed except after thirty (30) days prior written notice to the City at the following address: City of Huntsville, P.O. Box 308, Huntsville, Alabama 35804, Attention: Penny Kelly.

10. E-VERIFY

The City has adopted an ordinance that required certain contractors of the City to comply with certain requirements regarding the hire of unauthorized aliens under federal law. Contractor must complete and

submit the Contractor E-Verify Certification found in Attachment I prior to Award Notification, upon request of the City, and comply with the requirements described therein.

11. LICENSES AND CLASSIFICATIONS

In order to receive the award of this contract, the Contractor shall be required to possess a valid general contractor's license in accordance with Code of Alabama §§34-8-2 (1975) and (1996 amended) Code of Alabama as stated in Section 1 above. This general contractor's license shall be a State of Alabama general contractor's license and shall be maintained throughout the term of this contract. A valid City of Huntsville license shall also be maintained throughout the term of this contract.Contractor shall possess Municipal and Utilities (MU) and Highways and Streets (HS) and classifications as required.

12. PERMITS

The contractor shall be required to obtain and pay for all federal, state or local permits, licenses, and fees which may be necessary or required in order to perform the work detailed herein. A City of Huntsville Contractor's License must be obtained from the City of Huntsville Inspection Department at the time signatures are obtained on contracts. A copy of City of Huntsville license shall be provided to the OWNER at the time the contract is executed.

13. PAYMENT

The OWNER agrees to pay the contractor as follows. Once each month per project the OWNER shall make partial payment to the Contractor on the basis of duly certified and approved estimates (based on approved schedule of values) of the work performed during the preceding month by the Contractor, less five (5%) of the amount of such estimate, which is to be retained by the City until all of the work has been performed. Owner reserves the right to decline to makepayments, to withhold funds, or to demand the return of some or all of the amounts previously paid in order to protect the Owner from loss for reasons including, but not limited to:

a) defective work not remedied or, in the opinion of the Owner, not likely to be remedied;
b) defective materials not removed from site;
c) claims filed or reasonable evidence indicating imminent filing of claims against the Contractor;
d) failure of the Contractor to make payments properly to subcontractors, or for material or labor;
e)a reasonable doubt that the Contract can be completed for the balance then unpaid;
f) damage to another Contractor;
g) performance of work in violation of the terms of the Contract;
h) expiration of Contract time.

Liquidated damages will be deducted from all invoices when the invoice estimate period end date is later than the contract completion date and/or the schedule milestone date shown on Attachment A to the Proposal for which liquidated damages have been indicated to apply. All pay requests will be submitted by hard copy and on disk. The hard copy will be printed from the disk. The OWNER will provide the disk to the contractor. No further retainage will be held after fifty percent of the contract is complete. All payments to contractor will be made as soon as practical after the approval and finance processes have been completed. SEE SECTION 34 FOR INFORMATION ON FINAL PAYMENT.

14. CLAIM COMPENSATION (OMITTED)

15. EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, and SITE WORK

Before submitting a proposal, bidders shall examine carefully the site of the proposed work, the general and local conditions, the proposal form, standard specifications, supplemental specifications, special provisions, and the bid bond form, and it is mutually agreed that the submission of a proposal shall be prima facie evidence that the bidder has made such examination and has judged for and satisfied himself as to the conditions to be encountered in performing the work, and to the requirements of plans, standard specifications, supplemental specifications, special provisions, contract, and bonds. No adjustments or compensation will be allowed for losses caused by failure to comply with this requirement. Boring logs and other records of subsurface investigations may be available for inspection by bidders. Bidders shall request such records if they are not otherwise provided with bid documents. If available, it is understood that such information was obtained and is intended for the City of Huntsville's design and estimating purposes only. It is made available to bidders that they may have access to identical subsurface information available to the City, and is not intended as a substitute for personal investigation, interpretations and judgment of the

bidders. Bidders are advised that the City disclaims responsibility for any opinions, conclusions, interpretations, or deductions that may be expressed or implied in any of the information presented or made available to bidders; it being expressly understood that the making of deductions, interpretations, and conclusions from all of the accessible factual information is the bidder's sole responsibility.

The Contractor shall have a continuing duty to read, carefully study and compare each of the Contract Documents, the Shop Drawings, and the Product Data and shall give written notice to the Owner of any inconsistency, ambiguity, or error omission which the Contractor may discover with respect to these documents before proceeding with the affected work. The issuance or the express or implied approval by the Owner or the Engineer of the Contract Documents, Shop Drawings, or Product Data shall not relieve the Contractor of the continuing duties imposed hereby, nor shall any such approval be evidence of the Contractor's compliance with this Contract. The Owner has requested the Engineer to only prepare documents for the Project, including drawings and specs for the project which are accurate, adequate, consistent, coordinated and sufficient for construction.HOWEVER, THE OWNER MAKES NO REPRESENTATION OR WARRANTY OF ANY NATURE WHATSOEVER TO THE CONTRACTOR CONCERNING SUCH DOCUMENTS. By the execution hereof, the contractor acknowledges and represents that it has received, reviewed, and carefully examined such documents, has found them to be complete, accurate, adequate, consistent, coordinated and sufficient for construction, and that the Contractor has not, does not, and will not, rely upon any representation or warranties by the Owner concerning such documents as no such representation or warranties have been or are hereby made.

16. INCLUSIONS TO CONTRACT

The parties further agree that the advertisement for bids, instructions to bidders, contractor's proposal, plans and specifications, general requirements, supplement to general requirements, supplemental specifications, and general terms and conditions together with any addenda thereto made prior to submission of the contractor's proposal and all modifications agreed to by the parties and issued after the execution of this contract are a part of this contract as if fully set out herein.

17. COMMENCEMENT OF WORK

It is further understood and agreed that the Contractor shall commence work to be performed under this contract within fifteen (15) days from the date of this contract, unless otherwise instructed in writing by the OWNER. All work shall be carried on continuously to completion.

18. CONTRACT TIME

Unless a valid change order has been issued which alters the contract time period, all work is to be completed within the allotted time of the original contract, which is stated or can be calculated from the durations in the bid proposal Attachment A, Schedule Milestone Dates.

19. LIQUIDATED DAMAGES

It is further understood and agreed by and between the parties to this contract, that in the event the work to be performed under this contract is not completed at the expiration of the required milestone date for which liquidated damages have been predetermined to apply and/or the contract time, then, and in that event, the Contractor shall pay to the City the amount of $1,000.00 per calendar day for each day thereafter until such work is completed. The City will deduct said sum or sums from any money due the Contractor under this contract for any and all invoices submitted after the milestone or contracted completion due date. (See Section13.)

20. STORAGE OF MATERIALS

The Contractor shall not permit the storage of materials on or use of any property outside the right-of-way, easement, or property identified as the project site.

21. TRAFFIC FLOW

The Contractor shall be responsible for the uninterrupted, orderly and safe flow of traffic around, on, over or across the project site.

22. TERMINATION FOR CONVENIENCE

A. The City may for any reason whatsoever terminate performance under this Contract by the Contractor in whole or in part for convenience. The City shall give written notice of such termination to the Contractor specifying when the termination becomes effective.

B. After receipt of notice of the termination for convenience, for the terminated Work, the Contractor shall not enter into any new subcontracts, shall not purchase any additional supplies, equipment, or material for the Work, and shall make every effort to mitigate the costs of termination. The Contractor shall stop Work when such termination becomes effective. The Contractor shall also terminate outstanding orders and subcontracts. The Contractor shall settle the liabilities and claims arising out of their termination of subcontracts and orders. The City may direct the Contractor to assign the contractor's right, title and interest under terminated orders or subcontracts to the City or its designee. The City may direct the Contractor to take steps to preserve the Work in place at the time of termination.

C. The Contractor shall transfer title and deliver to the Owner such completed or partially completed Work and materials, equipment, parts, fixtures, information and Contract rights as the Contractor has.

D. (1) The Contractor shall submit a termination claim to the City specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the City. If the Contractor fails to file a termination claim within six (6) months from the effective date of termination, the OWNER shall pay the Contractor, an amount derived in accordance with subparagraph (3) below.

(2) The City and the contractor may agree to the compensation, if any, due to the Contractor hereunder.

(3) Absent agreement to the amount due to the Contractor, the City shall pay the Contractor the following amounts:

(a) Contract prices for labor, materials, equipment and other services accepted under this Contract.

(b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the Work, and in terminating the Contractor's performance, plus a fair and reasonable allowance for overhead and profit thereon (such profit shall not include anticipated profit or consequential damages); provided, however, that if it appears that the Contractor would not have profited or would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any. Costs incurred in performing the terminated portion of the work must have been incurred prior to the effective date of the termination.

(c) Reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to Paragraph B of this clause. These costs shall not include amounts paid in accordance with other provisions hereof.

The Total sum to be paid the Contractor under this clause shall not exceed the total Contract Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

(4) The Owner specifically reserves the right to convert a termination for convenience into a termination for cause within one (1) year after the effective date of the termination for convenience, in the event that the Owner becomes aware of circumstances or conditions with regards to the Work that would have warranted the Owner terminating for default, had those circumstances or conditions been properly known by the Owner, at the time of the termination for convenience. The Owner may, upon written notice to the Contractor of its intention to convert the termination for convenience to a termination for cause. Initiate the termination for cause procedures at that time, as set forth in the Performance Bond, and the termination for convenience shall then be converted to a termination for cause.

23. TERMINATION FOR CAUSE

A. If the Contractor persistently or repeatedly refuses or fails to prosecute the work in a timely manner, supply enough properly skilled workers, supervisory personnel or proper equipment or material, or if it fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction, or otherwise is guilty of a substantial violation of a material provision of this Contract, then the Owner may by written notice to the Contractor, without prejudice to any other right or remedy, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment, and machinery thereon owned by the Contractor and may finish the Work by whatever methods it may deem expedient. In such case, the Contractor shall not be entitled to or receive any further payment until the Work is finished.

B. If the unpaid balance of the Contract Price exceeds the cost of finishing the work, including compensation for the additional professional services and expenses made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the City.This obligation for payment shall survive the termination of the Contract.

C. In the event the employment of the Contractor is terminated by the City for cause pursuant to Paragraph A and it is subsequently determined by a court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience and the provisions of the Termination for Convenience clause shall apply.

24. UNBALANCED BIDS

The City may reject a bid as nonresponsive if the prices bid are materially unbalanced between line items. A bid is materially unbalanced when it is based on prices which are significantly overstated or understated in relation to cost for other work, and if there is a reasonable doubt that the bid will result in the lowest overall cost to the City even though it may be the low evaluated bid.

25. ADDITIONAL INSURANCE REQUIREMENTS

The Contractor shall carry insurance of the following kinds and amounts in addition to any other forms of insurance or bonds required under the terms of the contract specifications. The Contractor shall procure and maintain for the duration of the job until final acceptance by the Owner, or as later indicated, insurance 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 the Contractor, his agents, representatives, employees or subcontractors. For the purposes of these insurance requirements and indemnification/hold harmless provisions, the Project Manager shall be considered to be the agent of the City of Huntsville and also named as additional insured.

A. MINIMUM SCOPE OF INSURANCE

1. General Liability:

Insurance will be written on an occurrence basis. Claims-made coverage will be accepted only on an exception basis after the Owner's approval. General Liability Coverage and Owners Contractors Protective Insurance should be written by this same insurance company.

Commercial General Liability
Products and Completed Operations
Contractual Liability
Personal Injury and Advertising Injury
Explosion, Collapse and Underground Hazards (X.C.and U)
Broad Form Property Damage Liability
Severability of Interests
Waiver of Subrogation
Per Project Aggregate Limits

2. Professional Liability (only applies to contracts or subcontracts, consultants that are architects, engineers, land surveyors or consulting firms):

   Insurance may be written on a "claims-made" basis, providing coverage for negligent acts, error or omissions in the performance of professional services. Coverage will be maintained for three years after completion of the professional services and Certificates of Insurance will be submitted to the City within reasonable economic terms. Such coverage shall be carried on a continuous basis including prior acts coverage to cover the subject project. The professional liability insurance shall contain contractual liability coverage.

3. Railroad's Protective Bodily Injury Liability and Property DamageLiability Insurance:

   In any case where contract involves work within fifty (50) feet of a railroad right-of-way, the contractor shall carry insurance for himself and insurance in the name of the Railroad Company in the amounts and under the terms specified in the special provisions for each contract.

4. Automobile Liability:

   Business Automobile Liability providing coverage for all owned, hired and non-owned autos. Coverage for loading and unloading shall be provided under either automobile liability or general liability policy forms. Waiver of subrogation to be included.

5. Worker's Compensation Insurance:

   Statutory protection against bodily injury, sickness or disease or death sustained by employee in the scope of employment. Protection shall be provided by a commercial insurance company or a recognized self-insurance fund authorized before the State of Alabama Industrial Board of Relations.

6. Employers Liability Insurance:

   Covering common law claims of injured employees made in lieu of or in addition to a worker's compensation claim.

7 Owners, Contractors Protective Liability:

   Insurance naming the City of Huntsville as the named insured.

8. Property Insurance:

   Builders Risk Coverage, Special Form (including earthquake, sinkhole, and flood unless waived by the City of Huntsville) with a limit of no less than 100% of the completed value. The City of Huntsville and the Contractor should be the Named Insured as their interests may appear in improvements, repairs, and additions. The coverage should extend to all materials relative to the Work wherever located and in transit. The deductible shall not exceed $10,000 per occurrence and shall be borne by the contractor. Higher deductibles for earthquake, sinkhole, and flood may be approved by the City of Huntsville on a case by case basis.

9. Umbrella (Excess) Liability Insurance:

   a. For projects or contract values in excess of $5,000,000, Umbrella or Excess Liability Insurance is required in an amount of $5,000,000 per occurrence and $5,000,000 aggregate.

   b. For projects with contract value in excess of $10,000,000 Umbrella or Excess Liability insurance is required in an amount of $10,000,000 per occurrence and $10,000,000 aggregate.

B. MINIMUM LIMITS OF INSURANCE

1. General Liability:

Commercial General Liability on an occurrence form for bodily injury and property damage:

$2,000,000	General Aggregate Limit
$2,000,000	Products - Completed Operations Aggregate
$2,000,000	Personal and Advertising Injury$2,000,000Each Occurrence

2. Professional Liability:

Insurance may be made on a "claims-made" basis:

$500,000 Per Claim – Land Surveyors
$1,000,000 Per Claim – Other Professionals

3. Railroads Protective:

$500,000

4. Automobile Liability:

$1,000,000 Combined Single Limit per accident for bodily injury and property damage.

5. Worker's Compensation:

As required by the State of Alabama Statute.

6. Employers Liability:

$100,000Bodily Injury
$500,000Policy Limit by Disease

7. Owner's, Contractors, Protective:

$1,000,000 Per Occurrence
$1,000,000 Aggregate

8. Property Insurance:

Limit equal to the completed value of the construction or renovation.

9. Umbrella (Excess) Liability Insurance:

a. For projects or contract values in excess of $5,000,000, Umbrella or Excess Liability Insurance is required in an amount of $5,000,000 per occurrence and $5,000,000 aggregate.

b. For projects with contract value in excess of $10,000,000 Umbrella or Excess Liability insurance is required in an amount of $10,000,000 per occurrence and $10,000,000 aggregate.

C. OTHER INSURANCE PROVISIONS

The Owner is hereby authorized to adjust the requirements set forth in this document in the event it is determined that such adjustment is in the Owner's best interest. If the insurance requirements are not adjusted by the Owner prior to the Owner's release of specifications with regard to the project in question, then the minimum limits shall apply.

The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverage's Only:

a. The Owner, its officers, employees, agents and specified volunteers are to be covered as Additional Insured's, as their interest may appear, as respects: liability arising out of activities performed by or on behalf of the contractor, architect, engineer, land surveyor or consulting firm for products used by and completed operations of the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, employees, agents or specified volunteers.

b. The Contractor's insurance coverage shall be primary insurance as respects the Owner, its officers, employees, agents, and specified volunteers, as their interest may appear. Any insurance or self-insurance maintained by the Owner, its officers, officials, employees, agents or specified volunteers shall be excess of the Contractor's insurance and shall not contribute to it.

c. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. All Coverage's:

a. The Contractor is responsible to pay all deductibles. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Owner. Cancellation of coverage for non-payment of premium will require ten (10) day's written notice to the Owner.

b. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the Owner, its officers, employees, agents or specified volunteers.

D. ACCEPTABILITY OF INSURERS:

Insurance is to be placed with insurers with an A. M. Best's rating of no less than A- V.

E. VERIFICATION OF COVERAGE:

The Owner shall be indicated as a Certificate Holder and the Contractor shall furnish the Owner with Certificates of Insurance reflecting the coverage required by this document. The A.M. Best Rating and deductibles, if applicable, shall be indicated on the Certificate of Insurance for each insurance policy. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates are to be received and approved by the Owner before work commences. The Owner reserves the right to require complete, certified copies of all required insurance policies at any time.

F. SUBCONTRACTOR WORKING FORCONTRACTOR:

TheContractor shall specifically include all subcontractors as insured under its policies orshall furnish separate certificates and/or endorsements for each subcontractor. The Contractor shall include all architects, engineers, land surveyors or consulting firms working for him as insured under its policies other than professional liability, or shall furnish separate certificates and/or endorsements for each architect, engineer, land surveyor or consulting firm.Subcontractors working for the contractor or architects, engineers, land surveyors, or consulting firms working for the Contractor shall be required to carry insurance.

G. INDEMNIFICATION AND HOLD HARMLESS AGREEMENT:

1. Other Than Professional Liability Exposures, the Contractor, architect, engineer, land surveyor or consulting firm, to the fullest extent permitted by law, shall indemnify,hold harmless, and defend the City of Huntsville, its elected and appointed officials, employees, agents and specified volunteers against all claims, costs, damages, losses and expenses, including, but not limited to, attorney's fees, caused by, arising out of or resulting from or in connection with the performance of the work, provided that any such claim, costs, damage, loss or expense (1) is attributable to personal injury, including bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including loss of use resulting there from and (2) is caused

by,in whole or in part, any active or passive negligent act or omission of the contractor, architect, engineer, land surveyor or consulting firm, or any of their subcontractors, sub consultants, or anyone directly or indirectly employed by any of them or anyone for whose acts they are legally liable. Such obligation should not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this paragraph.

2. The architect, engineer, land surveyor or consulting firm agrees that as respects to negligent acts, errors, or omissions in the performance of professional services, to indemnify and hold harmless the City of Huntsville, its officers, agents, employees, and specified volunteers from and against any and all claims, demands, losses and expenses including, but not limited to attorney's fees, liability, or consequential damages of any kind or nature resulting from any such negligent acts, errors, or omissions of the architect, engineer, land surveyor or consulting firm or any of their sub consultants, or anyone directly or indirectly employed by any of them or anyone for whose acts they are legally liable.

3. In claims against any person or entity indemnified under this Paragraph by an employee of the Contractor, any one directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this Paragraph shall not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

26. DOMESTIC PREFERENCES

In the performance of this contract, the contractor shall comply with Ala Code (1975) §§ 39-3-1 through 39-3-5 in supplying steel, materials, supplies, other products, and labor.Failure to comply with these requirements shall subject the contractor to the penalties set forth in the sections of the Alabama Code set forth above.

27. TIME IS OF THE ESSENCE

Time is of the essence in the performance of this contract.

28. NO DAMAGES FOR DELAYS

In the event that the Contractor is delayed in the performance of the work for thereasons set forth in, §80.09 of the City of Huntsville's Standard Specifications for the construction of Public Improvements, Contract Projects, 1991, then the Contractor's recovery for such delay shall be limited to the extensions of time in contract performance in accordance with the provisions of §80.09 and in §4(c) "Changes in Contract Time" as set forth herein and shown above.

In such circumstances, time extensions are the sole remedy provided to the Contractor. The Contractor shall make no claim for extra compensation due to delays of the project beyond his control. Such delays may include those caused by an act of neglect on the part of the owner or the engineer, or by an employee of either, or by any separate contractor employed by the Owner, or by any changes ordered in the work, or by labor disputes, fire, unusual delays in transportation, adverse weather condition not reasonably anticipatable, unavoidable casualties, or by delay specifically authorized by the owner in writing pending the resolution of any disputes, or by any other cause which the Owner determines may justify delay.

29. CONTRACTOR RESPONSIBLE FOR LOCATING UTILITIES PRIOR TOCONSTRUCTIONINITIATION

The Contractor's attention is specifically directed to §50.07 -Cooperation with Utilities and Non-Highway Public Facilities in the City of Huntsville's Standard Specifications for the Construction of Public Improvements, Contract Projects, 1991. In addition to the responsibilities placed on the Contractor by that clause, the Contractor shall be responsible for having existing utilities located prior to excavations. The existence and location of any underground utility pipes or structures shown on the drawings have been obtained by a search of the available records. The City assumes no responsibility as to completeness or accuracy of the depicted location on the drawings. The Contractor shall be responsible for taking precautionary measures to protect the utilitiesshown and all other lines not of record or not shown on the drawings by verification of their location in the field prior to the initiation of the work.

30. RECOVERY TIME

Paragraph 80.09(b)2of the City of Huntsville's Standard Specifications for the construction of Public Improvements, Contract Projects, 1991 refers to thedefinition of recovery timeas being set forth in Section 10.01. Inasmuch as this definition was omitted from Section 10.01, the following definition shall be incorporated:

RecoveryTime: Recovery time is defined as the time required, after the controlling item or items of work have been substantially damaged as a result of conditions and causes beyond the control of the Contractor and not due to his negligence of fault, to restore the work to the condition existing prior to such damage so that normal operations can be resumed on the contract pay items. Recovery time shall be the number of days required by the Contractor, working with normal forces, to restore the work as described above.

31. WARRANTIES

Contractor shall provide a minimum of one year warranty of all materials and services from date of final completion. Additionally, all manufacturers' warranties on materials used in providing the services shall be provided to the owner with the final payment request. Separate warranty bonds may be required on specialty items as determined by the Owner and will be shown as a separate line item in the quantities prior to bidding. This requirement shall survive any termination of the contract.

32. COORDINATION WITH OTHER CONTRACTORS

It shall be the responsibility of the contractor to coordinate with other separate contractor's who may be working on the site or an adjacent site with regards to access to the site, storage of materials and working on a non-interference basis.

33. W-9 Taxpayer Form

All vendors/contractors are required to submit a Federal Tax Form W-9 to City of Huntsville at the time a contract is awarded, unless vendor/contractor is already registered and doing business with the City. No payments of invoices can be made until this W-9 Tax Form has been properly submitted. A copy of the W-9 Tax Form can be obtained at the following website: www.irs.ustreas.gov/pub/irs-pdf/fw9.pdf

34. FINAL PAYMENT

Final payment to construction contractor will be made after contractor provides the following: advertising of completion for four (4) consecutive weeks, lien waivers have been provided from all subcontractors, Record Drawings (As-Builts) have been submitted to the OWNER by construction contractor, all property pins have been reset by a licensed land surveyor hired by the construction contractor to meet "Standards of Practice for Surveying in the State of Alabama" as required by the Alabama Board of Registration for Engineering and Land Surveyors, and all construction signs have been removed. This final payment will be retainage only. All work will be complete prior to advertisement of completion. Advertisement of completion will be in a Huntsville local newspaper. The final payment request of retainage only will be submitted along with the advertisement of completion, warranties, lien waivers and Record Drawings.

35. PROJECT COMPLETION DATE

The project completion date will be a date mutually agreed upon by the OWNER and Contractor. This date will be after all items have been completed. Therefore, all work will be complete before any advertisement of completion is made. The completion date will always be before the first advertisement date. This final project completion date will be the date used to determine the one year warranty for all work and materials, unless a separate warranty bond has been called for as a line item prior to bidding.

36. RECORD DRAWINGS

POLICY FOR RECORD DRAWINGS

The purpose of this policy is to document procedures for the preparation and delivery of Record Drawings. Record Drawings shall include all changes in the plans, including those issued as Change Orders, Plan Clarification, Addenda, Notice to Contractors, responses to Requests for Information, Jobsite Memos, and

any additional details needed for the construction of the project, but not shown on the plans. After completion of all construction and before final acceptance is made, the Contractor shall submit one set of full size record drawings with dimensioned changes shown in red pencil, and one digital copy of record drawings using the criteria listed below.

City Construction Projects:
The Project Manager shall be responsible for field surveying upon substantial completion of construction (to be performed by a registered land surveyor in Alabama). The Project Manager is responsible for providing digital record drawings showing all info specified below, as applicable. Record drawings shall be maintained by the Contractor at the work site and shall be updated based on job progress to reflect all changes. Record drawings shall be made available for review on a monthly basis at the job site. A monthly review of record drawings will be part of the monthly monetary progress review. Progress payments may be withheld if the Record Drawings are not kept up-to-date. A late review could result in a delay of payment.

Record Drawing Criteria, unless otherwise noted by City Engineer:

1. **Roadways:**
   a. Any changes during construction of roadway/intersections that differ from plan drawings.

2. **Storm Drainage:**
   a. Structures: (boxes, inlets, end treatments, etc.)
      i. Horizontal locations of Features
      ii. Vertical location of Features – Tops and Inverts
      iii. Changes in type, size, or material of feature
   b. Pipes/Culverts:
      i. Document length
      ii. Document slope
      iii. Document size
      iv. Document invert elevation
      v. Changes in material of structure
   c. Flumes, Ditches, and/or Swales/Berms: (the following are minimum requirements)
      i. Horizontal location (to verify location within described easements):

For easement widths less than 15- feet	At 100-foot intervals along the centerline of feature.
For easement widths 15-feet or Greater	At 200-foot intervals along the centerline of feature.

      ii. Vertical location (to verify positive drainage):

For slopes less than 0.5%	At 50-foot intervals along the centerline of feature.
For slopes 0.5% or greater	At 100-foot intervals along the centerline of feature.

      iii. Changes in width or material of feature
      iv. Changes in location and type of geotechnical fabric used
      v. Changes in overall grading of site topography

   d. Detention/Retention Facility:
      i. Changes in size, location, or material of facility
      ii. Changes in location and type of geotechnical fabric used
      iii. Where applicable, copy of maintenance agreement

3. **Water Systems:**
   a. Structure
      i. Horizontal locations of Features – Northing and Easting coordinates
      ii. Changes in type, size, or material of feature
   b. Pipes
      i. Horizontal locations – Northing and Easting coordinates
      ii. Document length

iii. Document size
iv. Document depth
v. Changes in Material of Feature

4. **Communication Systems:**
   a. Structure
      i. Horizontal locations of Features – Northing and Easting coordinates
      ii. Changes in type, size, or material of feature
   b. Duct and duct banks
      i. Horizontal locations – Northing and Easting coordinates
      ii. Document length
      iii. Document slope
      iv. Document size
      v. Document depth
      vi. Changes in Material of Feature

5. **Electrical Systems:**
   a. Structure
      i. Horizontal locations of Features – Northing and Easting coordinates
      ii. Changes in type, size, or material of feature
   b. Pipes
      i. Horizontal locations – Northing and Easting coordinates
      ii. Document length
      iii. Document slope
      iv. Document size
      v. Document depth
      vi. Changes in Material of Feature
6. **Hardscape:**
   a. Any changes during construction of sidewalks, ramps, etc. that differ from plan drawings
      i. Horizontal locations of Features
      ii. Vertical location of Features
      iii. Changes in type, size, or material of Feature
      iv. Document length
      v. Document slope

7. **Irrigation:**
   a. Any changes during construction of heads, lines, controllers, valves, etc. that differ from plan drawings
      i. Horizontal locations of Features
   b. Vertical location of Features
   c. Changes in type, size, or material of Feature

Checklist for review of record drawings:

a. Changes in sidewalk location or size.
b. Changes in shoulder widths.
c. Changes in grades at intersections. (also to include changes in island location)
d. Changes in location of driveway aprons.
e. Changes in pavement section, to be supported by adequate documentation.
f. Changes in gutter flow line elevation. (could be substituted in 2b versus edge of pavement)
g. Geotechnical fabric locations, to include vertical elevation.
h. Changes in Traffic Engineering related items such as signals, signage and markings, etc.

Any other changes that may have occurred during construction.

37. LIEN WAIVERS

Lien waivers will be required from all subcontractors working for the contractor. Partial lien waivers shall be included with interim pay requests and final lien waivers shall be included with the final payment package. The contractor is responsible for obtaining signatures from his subcontractors. If no subcontractors are used, contractor must provide a statement indicating such.

38. LOWEST RESPONSIBLE BIDDER

For the purpose of determining the lowest responsive and responsible bidder, the OWNER shall consider the base bid amount together with any options set forth in the Request for Bids. In the event that the City does not have sufficient funds to award both the base bid and all options, then the City reserves the right to determine the lowest responsible bidder on the base bid only or the base bid and the number of options affordable considering the funds available to the City for the procurement. This method for determining the low bidder is for the purpose of allowing the City to procure the most advantageous bid for the OWNER.

39. OPTIONS

City of Huntsville reserves the right to award any and/or all options at any time during the life of the contract. Options not awarded by the City at the time of contract award may be awarded by written unilateral change order during the term of the contract.

40. NON-RESIDENT BIDDERS

In awarding the Contract, preference will be given to Alabama resident contractors and a nonresident bidder domiciled in a state having laws granting preference to local contractors shall be awarded the Contract only on the same basis as the nonresident bidder's state awards contracts to Alabama contractors bidding under similar circumstances.

41. DAYS WORK NOT PERMITTED

Section 80.08(C) of the City of Huntsville Standard Specifications for Construction of Public Improvements Contract Projects, 1991 shall be revised to replace the existing section with the following:

The Contractor shall not permit work on Sundays and the following holidays: New Year's Day, Martin Luther King's Birthday as nationally observed, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, and Christmas Day, except with permission of the Director.

42. SUBLETTING AND CONTRACT

Section 80.01(a) of the City of Huntsville Standard Specifications for Construction of Public Improvements Contract Projects, 1991, is revised as shown:

The Contractor shall not sublet the contract or any portion thereof, or of his right, title, or interest therein, without written consent of the DIRECTOR.If such consent is given, the Contractor will be permitted to sublet a portion of the work, but shall perform with his own organization, work amounting to not less than 30 percentof the total contract cost. Any items designated in the contract as "specialty items" may be performed by sub-contract and the cost of such specialty items performed by sub-contract may be deducted from the total cost before computing the amount of work required to be performed by the contractor with his own organization. No sub-contracts, or transfer of contract, shall relieve the Contractor of his liability under the contract and bonds. The Department reserves the right to disapprove a request for permission to sublet when the proposed Subcontractor has been disqualified from bidding for those reasons listed in Sub Article 20.02(b).

43. PROGRESS SCHEDULE OF OPERATIONS

Section 80.03 of the City of Huntsville Standard Specifications for Construction of Public Improvements Contract Projects, 1991, is revised as shown:

A critical path schedule is required within ten (10) days after award. The detailed schedule must be submitted in electronic format and a hard copy, with the critical path highlighted. The schedule shall show information on the task or tasks that must be finished on schedule for the project to finish on schedule. Task dependencies, constraints, and relationships shall be shown on the schedule. If the schedule is not received, YOUR first pay estimate will NOT BE PROCESSED UNTIL IT IS. See Sections 80.03 and 80.04 for additional requirements.

44. CONTRACTS ON A CALENDAR DAY OR CALENDAR DATE BASIS

Section 80.09(b) of the City of Huntsville Standard Specifications for Construction of Public Improvements Contract Projects, 1991, is revised as shown:

Section 80.09 (b) first paragraph reads: "When the notice to proceed is delayed more than ten (10) calendar days after execution of the contract, the date of completion will be extended . . ." Shall be amended to read "When the notice to proceed is delayed more than **fifteen (15)** calendar days after execution of the contract, the date of completion will be extended . . ."

Section 80.09(b) is revised to remove the last sentence of the first paragraph: ("Also where the total cost of the completed work exceeds the total cost shown on the proposal, an extension in calendar days will be granted the Contractor, as provided in Section 80.09(a)1.") It is replaced by: "Where the scope of work is increased, an extension of time commensurate with the scope of the change may be granted by the OWNER when in his judgment, the facts justify an extension. The contractor shall provide justification substantiated to the satisfaction of the OWNER with any requests for time extensions. Justification shall include, but not be limited to, a revised schedule showing the impact to critical path tasks."

45. EXCAVATION AND EMBANKMENT (OMMITTED)

46. PIPE CULVERT JOINT SEALERS

Section 847 of the City of Huntsville Standard Specifications for Construction of Public Improvements Contract Projects, 1991 is deleted and replaced with Section 846 – Pipe Culvert Joint Sealers, ALDOT Specifications for Highway Construction, Current Edition.

47. NPDES CONSTRUCTION REQUIREMENTS

For areas of this project meeting the Alabama Department Of Environmental Management (ADEM) definition of a "Construction Site", the Developer "LW Redstone" shall prepare and apply for, pay the necessary fees, post the required registration at the jobsite prior to commencing work, and the contractor shall maintain the worksite and Project Manager shall maintain the records in accordance with the ADEM requirements for National Pollutant Discharge Elimination System (NPDES) registration. Off-site borrow pits utilized in the construction of this project are included in the requirement. NPDES Construction Site is construction that disturbs 1 acre or greater or will disturb less than 1 acre but is part of a larger common plan of development or sale whose total land disturbing activities total 1 acre or greater. An NPDES construction site also includes construction sites, irrespective of size, whose storm water discharges have a reasonable potential to be a significant contributor of pollutants to a water of the State, or whose storm water discharges have a reasonable potential to cause or contribute to a violation of an applicable Alabama water quality standard as determined by the Department. The Contractor is referred to the "Alabama Department Of Environmental Management Field Operations Division – Water Quality Program - Division 335 – 6" for complete definitions and requirements. The Contractor is also referred to Item 11 of these General Requirements, Sections 50.15, 50.16, and 70.02 of the City of Huntsville "Standard Specifications For Construction Of Public Improvements, Contract Projects" (Specifications).

Contractor violations of the permit by rule which results in enforcement actions from ADEM including fines and/or work stoppage shall be the responsibility of the Contractor. Fines assessed to the Contractor or the Developer, "LW Redstone," because of Contractor action shall be paid by the Contractor. No extension of contract time shall be considered as a result of enforcement. Enforcement history will also be considered by the OWNER in its decision to issue future proposals or award future contracts in accordance with disqualification provisions of Section 20.02(b) of the Specifications.

48. AUTHORITY OF THE ENGINEER OF RECORD

This section is deleted.

49. SHOP DRAWINGS

The contractor shall provide six (6) sets of all required submittals and deliver to the Project Manager for submittal to the Owner and Engineer for review and approval. The approval of shop drawings by the Engineer will cover only the features of the design and in no case shall this approval be considered to cover error or omissions in shop details or a check of any dimensions. The Contractor shall be responsible for the accuracy of the shop drawings, the fabrication of materials and the fit of all connections; and he shall bear the cost of all extra work in erection caused by errors in shop drawings or in fabrication, inaccurate workmanship, misfits of connections or for any changes in fabrication necessary. No work shall be done on the material before the shop drawings have been approved. Any material that the Contractor orders prior to the approval shall be at the Contractor's risk.

Substitutions or changes whether indicated or implied on shop drawings will not be considered as changes regardless of the Engineer's approval of shop drawings unless the change has been previously submitted and approved as a change order per the requirements for changes in the contract.

After a shop drawing has been approved, no changes shall be made unless directed in writing to the Owner and acceptance by the Owner of said changes. Any acceptance of change by the Owner does not constitute a change to the contract unless that change has been approved and directed in writing per change order. Compensation for preparing and furnishing all shop and working drawings shall be included in the contract unit prices for the various pay items of work.

50.APPLICATION OF CITY OF HUNTSVILLE ENGINEERING OF PUBLIC WORKS DEPARTMENT STANDARD SPECIFICATIONS, 1991 EDITION. (Specifications)

The Specifications shall apply with the following modifications, additions, and stipulations listed below and as modified in Sections 6, 27, 28, 29, 39, 40, 41, and 42 above. All measurement and payment shall be based on a lump sum amount for all work proposed. Where allowances are shown on the proposal forms and unit prices are shown, quantities shall be measured per the Specifications.

DIVISION 1 - GENERAL REQUIREMENTS
SECTION 10 DEFINITION OF TERMS

10.01 Definitions.
(a) ABBREVIATIONS.
Add: PM – The Project Manager agent for the City of Huntsville

SECTION 20 PROPOSAL REQUIREMENTS AND CONDITIONS

20.01 Notice to Contractors (Advertisement).
(a) GENERAL.
Delete: "approximate quantities"
(b) QUANTITIES.
Delete: Entire paragraph

20.02 Qualification of Bidders.
(a) PREQUALIFICATION.
Delete: "equipment questionnaire"
Delete the following sentence: "A corporation from another State can be issued a certificate valid for bidding only on projects involving Federal participation, without the certificate from the Secretary of State."
(b) Under Item 6 in the last sentence
Delete "or doing any subcontract work for a Prime Contractor."

20.03 Contents of Proposal Form.
(a) GENERAL.
Delete: "the approximate estimate of the various quantities of the pay items of the work to be performed and materials to be furnished, and the amount of the proposal guaranty"

20.04 Interpretation of Quantities in Bid Schedule.

Delete entire paragraph

20.06 (b) Preparation of Proposal.
DETAILS.
Delete entire paragraph

20.07 (b) Irregular Proposals.
UNBALANCED BIDDING.
Delete entire paragraph

20.08 Combination Bids.
Replace item 1 with "Combination Bids must be submitted on the Combination Bid Form." Delete items 2 and 3 in their entirety

SECTION 30 AWARD AND EXECUTION OF CONTRACT

30.01 Consideration of Proposals.
Delete from first sentence: "the summation of the products of the approximate quantities shown in the bid schedule by the unit bid prices" and replace with "the lump sum."
Delete third sentence, in its entirety: "In the event of a discrepancy between unit bidprices and extensions, the unit bid price shall govern."

SECTION 40 SCOPE OF WORK

SECTION 50 CONTROL OF WORK

50.01 Authority of the Engineer of Record.
Deleted

50.04 Responsibilities of the Engineer of Record.
Delete all references to "The Engineer of Record" and replace with "Project Manager" under items C and D.

50.06 Coordination of Plans, Specifications, and Special Provisions.
Delete all references to "The Engineer of Record" and replace with "Project Manager".

50.07 Cooperation with Utilities and Non-Highway Public Facilities.
Delete all references to "The Engineer of Record" and Engineer and replace with "Project Manager".

50.08 Cooperation by the Contractor.
Delete all references to "The Engineer of Record" and replace with "ProjectManager and Engineer"

50.09 Cooperation between Contractors.
Delete all references to "Engineer" and replace with "Project Manager"

50.10 Construction Stakes, Lines and Grades.
Delete all references to "The Engineer of Record" and replace with "Project Manager".

50.13 Removal of Unacceptable and Unauthorized Work.
Delete all references to "The Engineer of Record" and replace with "ProjectManager".

50.17 Acceptance.
Delete all references to "The Engineer of Record" and replace with "ProjectManager".

SECTION 60 CONTROL OF MATERIALS

Replace all references to "Engineer" or "Engineer of Record" with "Project Manager"

SECTION 70 LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

Replace all references to "Engineer" or "Engineer of Record" with "Project Manager"

SECTION 80 PROSECUTION AND PROGRESS

Replace all references to "Engineer" or "Engineer of Record" with "Project Manager"
Delete the schedule for liquidated damages in section 80.11.

SECTION 90 MEASUREMENT AND PAYMENT

DIVISION II - CONSTRUCTION DETAILS

PART 1 – EARTHWORK

SECTION 101 CLEARING AND GRUBBING

101.01 No burning allowed on-site.
101.02 General Methods (b) Debris shall be removed from the site and disposed of in an off-site location in a legal manner. Delete "Trees and stumps outside of the construction limits that are not to remain shall be cut off even with the ground surface."

101.04 Basis of payment is lump sum. References to Section 105 are deleted.
101.05 Exclusions are deleted.

SECTION 103 REMOVAL OF MISCELLANEOUS EXISTING DRAINAGE AND OTHER FACILITIES

103.06 Basis of Payment is lump sum.

SECTION 105 EXCAVATION AND EMBANKMENT – OMITED

Refer to Supplemental Specifications EARTHWORK for requirements.

SECTION 107 STRUCTURE EXCAVATION AND BACKFILL FOR DRAINAGE

107.04 Method of Measurement is deleted.

107.05 Payment will be under the base bid as part of the lump sum.

SECTION 108 EXCAVATION FOR BRIDGES – OMITTED

SECTION 109 LANDSLIDE CORRECTION – OMITTED

SECTION 111 STABILIZED ROADBED

111.03B Any references to section 105 do not apply

111.04 Method of Measurement is deleted.

111.05 Payment will be under the base bid as part of the lump sum.

SECTION 113 BRIDGE DETOUR - OMITTED

PART 2 – BASES

SECTION 201 SUBGRADE

201.02 Material shall have a Liquid Limit (LL) of 50 or less as specified in supplemental specifications EARTHWORK. Section 105 has been omitted. Solid Rock is allowed twenty-four (24) inches below the finish subgrade elevation.

201.03 Construction Requirements to plus or minus one tenth of a foot (0.10')
(a) Undercutting shall be as directed per the Owner's on-site representative. Refer to Supplemental specifications EARTHWORK for additional information.
(b) Subgrade Preparation – remove the twelve (12) inch requirement noted and replace with the following: Unsuitable materials encountered in the subgrade shall be removed to a depth at least thirty-six (36) inches in building pad areas and at least twelve (12) inches in all other areas. Refer to Supplemental Specifications EARTHWORK for additional information.
(c) Density Requirements shall have the maximum dry density at ninety-eight (98)percent for all areas below subgrade elevation.
(d) Surface Requirements shall be plus or minus one tenth of a foot (0.10').

201.04 Sampling and testing requirements (b) Density Requirements – OMIT 1. And replace with the following:
1 test for each 2,500 SF each lift in building pad areas
1 test for each 5,000 SF each lift in boulevards, side streets, and paved areas
1 test for each 10,000 SF each lift in mass graded areas

201.05 Basis of Payment is lump sum.

SECTION 205 DENSE GRADED AGGREGATE BASE COURSE

205.05 (a) and (b): Basis of Payment is lump sum.

SECTION 206 DENSITY REQUIREMENTS FOR COMPACTION

PART 3 – SURFACING AND PAVEMENTS

SECTION 401 BITUMINOUS SURFACE TREATMENT

401.05 Method of Measurement is deleted.

401.06 Basis of Payment is lump sum.

SECTION 402 SLURRY SEAL COAT – OMITTED

SECTION 405 TACK COAT

405.04 Method of Measurement is deleted.

405.05 Basis of Payment is lump sum.

SECTION 406 REPAVED BITUMINOUS PAVEMENTS

406.04 Method of Measurement is deleted.

406.05 Basis of Payment is lump sum.

SECTION 408 PLANING (MILLING) OF EXISTING PAVEMENT

408.05 Method of Measurement is deleted.

408.06 (a) &(b): Basis of Payment is lump sum.

SECTION 410 BITUMINOUS PLANT MIX PAVEMENTS

410.08 Method of Measurement is deleted.

410.09 Basis of Payment is lump sum.

SECTION 411 HOT BITUMINOUS PAVEMENT

411.04 Method of Measurement is deleted.

411.05 Basis of Payment is lump sum.

SECTION 414 BITUMINOUS CONCRETE BINDER LAYER – OMITTED

Refer to ALDOT Spec 424A for requirements. Basis of payment is lump sum

SECTION 416 BITUMINOUS CONCRETE WEARING SURFACE – OMITTED

Refer to ALDOT Spec 424B for requirements. Basis of payment is lump sum

PART 4 – STRUCTURES

SECTION 501 STRUCTURAL PORTLAND CEMENT CONCRETE

SECTION 503 STEEL REINFORCEMENT

503.04 Method of Measurement is deleted.

503.05 Basis of Payment is lump sum.

SECTION 505 STRUCTURE FOUNDATION

505.04 Method of Measurement is deleted.

505.05 Basis of Payment is lump sum.

SECTION 507 PILING – OMITTED

SECTION 509 STRUCTURE STEEL AND MISCELLANEOUS METALS – OMITTED

SECTION 511 BRIDGES – OMITTED

SECTION 513 PRESTRESSED CONCRETE BRIDGE MEMBERS – OMITTED

SECTION 515 LINSEED OIL PROTECTIVE COATING FOR BRIDGE DECKS - OMITTED

SECTION 517 BRIDGE AND SIDEWALK HANDRAILS – OMITTED

SECTION 519 REPAIR OR RAISED EXISTING BRIDGES – OMITTED

SECTION 520 STEEL BRIDGE PAINTING – OMITTED

SECTION 521 BRIDGE JOINT SEALS – OMITTED

SECTION 523 REINFORCED CONCRETE BOX CULVERTS

523.04 Method of Measurement is deleted.

523.05 Basis of Payment is lump sum.

SECTION 525 CONCRETE RETAINING WALLS AND CRIBBING – OMITTED

SECTION 527 STORM SEWER PIPE

527.03 Construction Requirements (c) Pipe Bedding
1. Remove "Where soft, unyielding soil, rock.....under Unclassified Excavation".
Refer to Bedding Detail DR-166on sheet C5.0.

527.04 Method of Measurement is deleted.

527.05 Basis of Payment is lump sum.

SECTION 531 RELAID PIPE

531.04 Method of Measurement is deleted.

531.05 Basis of Payment is lump sum.

PART 5 – INCIDENTALS

SECTION 601 ENGINEERS FIELD OFFICE – OMITTED

SECTION 603 PIPE UNDERDRAIN

603.02 Materials – Refer to Section 853 in lieu of 851

603.04 Method of Measurement is deleted.

603.05 Basis of Payment is lump sum.

SECTION 605 RIPRAP

605.04 Method of Measurement is deleted.

605.05 Basis of Payment is lump sum.

SECTION 607 MORTAR FOR MASONRY

607.04 Method of Measurement is deleted.

607.05 Basis of Payment is lump sum.

SECTION 609 RUBBLE MASONRY – OMITTED

SECTION 611 BRICK AND CONCRETE BLOCK MASONRY

611.04 Method of Measurement is deleted.

611.05 Basis of Payment is lump sum.

SECTION 613 SLOPE PAVING

613.04 Method of Measurement is deleted.

613.05 Basis of Payment is lump sum.

SECTION 615 GROUTED RIPRAP - OMITTED

SECTION 617 CONCRETE SIDEWALKS AND DRIVEWAYS

617.04 Method of Measurement is deleted.

617.05 Basis of Payment is lump sum.

SECTION 619 PIPE CULVERT END TREATMENTS

619.04 Method of Measurement is deleted.

619.05 Basis of Payment is lump sum.

SECTION 620 MINOR STRUCTURE CONCRETE

620.04 Method of Measurement is deleted.

620.05 Basis of Payment is lump sum.

SECTION 621 INLETS, JUNCTION BOXES, MANHOLES AND MISCELLANEOUS DRAINAGE STRUCTURES

621.04 Method of Measurement is deleted.

621.05 Basis of Payment is lump sum.

SECTION 623 MANHOLES FOR SANITARY SEWERS – OMITTED

Refer to the City of Huntsville Engineering Department "Design and Acceptance Manual for Sanitary Sewers" dated March 2011 for all sanitary sewer information.

SECTION 625 CURB, GUTTER, AND COMBINATION CURB AND GUTTER

625.04 Method of Measurement is deleted.

625.05 Basis of Payment is lump sum.

SECTION 627 CONCRETE MEDIAN AND SAFETY BARRIER - OMITTED

SECTION 629 GUARDRAIL AND BARRIER RAIL – OMITTED

SECTION 631 CHAIN LINK INDUSTRIAL FENCE – OMITTED

SECTION 633 WOVEN WIRE FENCE – OMITTED

SECTION 635 BARBED WIRE FENCE – OMITTED

SECTION 637 FENCE RESET – OMITTED

SECTION 641 WATER PIPE - OMITTED

Refer to Huntsville Utilities Water Department Facilities Specifications dated 2008 for all water system requirements.

Refer to Supplemental Specification Irrigation for additional information.

SECTION 643 FIRE HYDRANTS RESET - OMITTED

Refer to Huntsville Utilities Water Department Facilities Specifications dated 2008 for all water system requirements.

SECTION 645 WATER METERS AND VALVE BOXES RESET

Refer to Huntsville Utilities Water Department Facilities Specifications dated 2008 for all water system requirements.

Refer to Supplemental Specification Irrigation for additional information.

SECTION 647 SANITARY SEWERS, GRAVITY FLOW - OMITTED

Refer to the City of Huntsville Engineering Department "Design and Acceptance Manual for Sanitary Sewers" dated March 2011 for all sanitary sewer information.

SECTION 648 ENCASEMENT PIPE FOR UTILITIES - OMITTED

SECTION 649 TOPSOIL

649.02 Materials (c) Source of Material will be from the project site. Any excess topsoilremainingafter the site has been replated shall be stockpiled in the off-site area as designated on Exhibit #2 for the Owner's future use.

649.04 Method of Measurement is deleted.

649.05 Basis of Payment is lump sum.

Refer to Supplemental Specifications Landscape for additional information.

SECTION 651 GROUND PREPARATION AND FERTILIZERS FOR EROSION CONTROL

651.04 Method of Measurement is deleted.

651.05 Basis of Payment is lump sum.

Refer to Supplemental Specifications Landscape for additional information.

SECTION 653 SEEDING

653.04 Method of Measurement is deleted.

662.05 Shall be renumbered to 653.05 and the Basis of Payment is lump sum and shall include installation, establishment, andmaintenance for scope area.

Refer to Supplemental Specifications Landscape for additional information.

SECTION 654 SPRIGGING – OMITTED

SECTION 655 SOLID SODDING - OMITTED

655.04 Method of Measurement is deleted.

655.05 Basis of Payment is lump sum and shall include installation, establishment, and maintenance for scope area.

Refer to Supplemental Specifications Landscape for additional information.

SECTION 657 MULCHING

657.04 Method of Measurement is deleted.

657.05 Basis of Payment is lump sum and shall include installation, establishment, andmaintenance for scope area.

Refer to Supplemental Specifications Landscape for additional information.

SECTION 659 HYDRO-SEEDING AND MULCHING

659.04 Method of Measurement is deleted.

659.05 Basis of Payment is lump sum and shall include installation, establishment, andmaintenance for scope area.

Refer to Supplemental Specifications Landscape for additional information.

SECTION 661 EROSION CONTROL NETTING

661.05 Method of Measurement is deleted.

661.06 Basis of Payment is lump sum and shall include installation, establishment, and maintenance for scope area.

SECTION 663 VINES, SHRUBS AND TREE PLANTING – OMITTED

Refer to Supplemental Specifications Landscape for additional information.

SECTION 665 TRANSPLANTING TREES, SHRUBS AND VINES – OMITTED

Refer to Supplemental Specifications Landscape for additional information.

SECTION 667 TREE WELLS AND TREE ROOT PROTECTION – OMITTED

Refer to Supplemental Specifications Landscape for additional information.

SECTION 669 ROOT PRUNING – OMITTED

Refer to Supplemental Specifications Landscape for additional information.

SECTION 671 TEMPORARY EROSION CONTROL

671.01 General (b) Requirements 2. and 3. Remove the 5 acre maximum disturbed area restriction for these two paragraphs. The Contractor shall limit the areas of disturbance atany given time based on the work schedule and weather to minimize erosion on the site.

671.02 Materials. Replace Hay Bales with Straw Wattles with a minimum diameter of eight (8) inches or greater. Refer to the plans for additional information.

671.03 Construction Requirements (h) Hay Bales. Replace with Straw Wattles.

671.04 Method of Measurement is deleted.

671.05 Basis of Payment is lump sum and shall include installation, establishment, maintenance, and removal for scope area.

SECTION 673 LOW PRESSURE AIR TESTING FOR SEWER LINES – OMITTED

Refer to the City of Huntsville Engineering Department "Design and Acceptance Manual for Sanitary Sewers" dated March 2011.

SECTION 677 MANHOLE FRAMES AND COVERS

677.01 Description – This section only applies to storm drainage. Delete any reference to sanitary sewers. Refer to the City of Huntsville Engineering Department "Design and Acceptance Manual for Sanitary Sewers" dated March 2011for all sanitary sewer information.

677.04 Method of Measurement is deleted.

677.05 Basis of Payment is lump sum.

SECTION 679 GRINDER PUMP STATIONS – OMITTED

SECTION 681 PRESSURE SANITARY SEWER SYSTEM – OMITTED

SECTION 685 WASTEWATER LIFT STATION - OMITTED

PART 6 – TRAFFIC CONTROLDEVICES AND STREET LIGHTING

SECTION 701 TRAFFIC STRIPE

701.04 Method of Measurement is deleted.

701.05 Basis of Payment is lump sum.

SECTION 703 TRAFFIC CONTROL MARKINGS AND LEGENDS

703.04 Method of Measurement is deleted.

703.05 Basis of Payment is lump sum.

SECTION 705 PERMANENT BARRICADE - OMITTED

SECTION 707 PORTABLE CONCRETE SAFETY BARRIERS AND IMPACT ATTENUATORS

707.04 Method of Measurement is deleted.

707.05 Basis of Payment is lump sum.

SECTION 709 TRAFFIC CONTROL DEVICES FOR CONSTRUCTION WORK ZONES

709.04 Method of Measurement is deleted.

709.05 Basis of Payment is lump sum.

SECTION 711 PORTABLE SEQUENTIAL ARROW AND CHEVRON SIGN UNIT

711.04 Method of Measurement is deleted.

711.05 Basis of Payment is lump sum.

SECTION 713 ELECTRICAL CONDUIT UNDER ROADWAYS - OMITTED

Refer to Huntsville Utilities Electric Department General Specifications for Installation for Underground Utilities dated October 2008 for all electrical system requirements.

DIVISION III - MATERIALS

SECTION 800 MATERIALS

SECTION 801 COURSE AGGREGATE

SECTION 805 FINE AGGREGATE

SECTION 807 BITUMINOUS MATERIALS

SECTION 808 MINERAL FILLER, HYDRATED LIME, CALCIUM CHLORIDE BRICKBLOCKS

SECTION 809 FLY ASH

SECTION 811 WATER

SECTION 813 AIR ENTRAINING ADDITIVES

SECTION 815 RETARDERS AND REDUCERS

SECTION 817 GEOTEXTILES

SECTION 819 MASONRY STONE - OMITTED

SECTION 821 RIPRAP MATERIALS

SECTION 823 CEMENT

SECTION 825 SELECTED MATERIALS

SECTION 826	CRUSHED AGGREGATE BASE MATERIALS
SECTION 827	LOCAL SAND AND SAND-GRAVEL FOR MISCELLANEOUS CONSTRUCTION USE
SECTION 829	CONCRETE CURING MATERIAL
SECTION 831	CONCRETE JOINT FILLERS, SEALERS AND WATERSTOP MATERIALS
SECTION 833	LUMBER AND TIMBER UNTREATED AND TREATED
SECTION 835	PILING – CONCRETE AND STEEL – OMITTED
SECTION 837	STEEL REINFORCEMENT
SECTION 839	STRUCTURE STEEL, FASTENERS AND MISCELLANEOUS METALS - OMITTED
SECTION 841	ELASTOMERIC BEARING PADS – OMITTED
SECTION 843	PERFORMED FABRIC BEARINGS- OMITTED
SECTION 845	ROUND AND ARCH CORRUGATED STEEL ROADWAY AND SIDEDRAIN PIPE – OMITTED
SECTION 847	PIPE CULVERT JOINT SEALERS
	Replaced with Section 846 – Pipe Culvert Joint Sealers, ALDOT Specifications for Highway Construction, Current Edition
SECTION 849	CIRCULAR AND ARCH CONCRETE ROADWAY PIPE
SECTION 853	PIPE UNDERDRAIN
SECTION 854	SEWER PIPE - OMITTED
	Refer to the City of Huntsville Engineering Department "Design and Acceptance Manual for Sanitary Sewers" dated March 2011.
SECTION 859	PAINTS, ENAMELS, VARNISHES, PIGMENTS, VEHICLES AND OTHER RELATED MATERIALS
SECTION 861	TRAFFIC MARKING MATERIALS
SECTION 862	FAST-DRY TRAFFIC PAINT
SECTION 863	ROADSIDE IMPROVEMENT MATERIALS
SECTION 865	UTILITY ENCASEMENT PIPE – OMITTED
SECTION 867	WATER PIPE - OMITTED
	Refer to Huntsville Utilities Water Department Facilities Specifications dated 2008 for all water system requirements.
SECTION 869	GUARDRAIL AND BARRIER RAIL MATERIALS – OMITTED
SECTION 871	FENCING MATERIALS – OMITTED
SECTION 880	SIGN MATERIALS
SECTION 881	DELINEATORS AND HAZARD MARKERS

SECTION 882 PAVEMENT MARKERS

51. SURVIVABILITY OF CONTRACT PROVISIONS

Termination of this Contract by either party shall not affect the rights and obligations of the parties that accrued prior to the effective date of the termination. Terms and conditions of the contract that survive termination include, but are not necessarily limited to, provisions regarding payments, insurance, termination, warranty, governing law of the contract, liquidated damages, bonding requirements, notice procedures, waiver, and other requirements necessary and appropriate for the proper resolution of disputes, claims, and enforcement of the rights of the parties.

52. SURETY BONDS

The Contractor shall furnish separate performance and payment bonds on the Owner. Each bond shall set forth a penal sum in an amount not less than the Contract Price. Each bond furnished by the Contractor shall incorporate by reference the terms of this Contract as fully as though they were set forth verbatim in such bonds. In the event the Contract Price is adjusted by Change Order executed by the Contractor, the penal sum of both the performance bond and the payment bond shall be deemed increased by like amount. The performance and payment bonds furnished by the Contractor shall be in forms suitable to the Owner, in conformance with all the requirements of the Code of Alabama (1975), §39, and shall be executed by a surety, or sureties, reasonably suitable to the Owner.

53. GOVERNING LAW

The Contract shall be governed by the laws of the State of Alabama.

54. SUCCESSORS AND ASSIGNS

The Owner and Contractor bind themselves, their successors and assigns to the other party hereto and to successors and assigns of such other party in respect to covenants, agreements, and obligations contained in this Contract. The Contractor shall not assign this Contract without written consent of the Owner. In no event shall a contract be assigned to an unsuccessful bidder whose bid was rejected because he or she was not a responsible or responsive bidder.

55. WRITTEN NOTICE

Written notice shall be deemed to have been duly served if delivered in person to the individual or a member of the firm or entity or to an officer of the corporation for which it was intended, or if delivered at or sent by registered or certified mail to the last business address known to the party giving notice.

56. RIGHTS AND REMEDIES

Duties and obligations imposed by the Contract Documents and rights and remedies available there under shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

No action or failure to act by the Owner, Engineer, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

57. ENTIRE AGREEMENT

This Contract represents the entire agreement between the Owner and the Contractor and supersedes all prior communications, negotiations, representations or agreements, either written or oral. This agreement may be amended only by written instrument signed by both Owner and Contractor.

END OF SUPPLEMENT TO GENERAL REQUIREMENTS

Supplemental Specifications

SECTION – EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Requirements, Supplement to General Requirements, Special Conditions, and Supplemental Specifications, apply to this Section.

B. Report of Subsurface Exploration and Geotechnical Evaluation – Retail Road Package 1F – Redstone Gateway Extension, Market Street and Overlook Road Relocation (Unsecure Area), Huntsville, AL, Building and Earth project #HV10019 dated August 5, 2011. This document is provided for general information purposes only and is not a part of the contract documents. The Owner assumes no responsibility for any interpretations of site conditions by the contractor from this project document.

C. Final Environmental Assessment for the North Rideout Road Enhanced Use Lease Site Development at Redstone Arsenal, AL prepared by URS Corporation and LW Redstone Company, LLC dated December 2008.

1.2 SUMMARY

A. This Section includes all earthwork activities (excavating and filling) as indicated on the drawings to the required lines, dimensions, contours and elevations for the proposed improvements. This includes but is not limited to the following:

1. Preparing subgrades for slab-on-grade, walks, pavements, turf, and grassesandplants.
2. Excavating and backfilling for structures.
3. Subsurface drainage backfill for walls and trenches.
4. Excavating and backfilling trenches and pits.
5. Stripping of topsoil regardless of depth (isolated deep pockets of topsoil up to 3' in depth should be anticipated as outlined in the geotechnical report).
6. Grubbing of deep root systems (deep grubbing should be anticipated in areas covered with mature trees).
7. Mass excavations (earth and/or rock).
8. All excavation to the "cut line" regardless of material encountered.
9. All filling activities.
10. The contractor shall work with the Owner throughout the construction process regarding fine grading & trench excavation material. If there is excess material on-site that cannot be accommodated by the proposed grading, then the contractor shall notify the Owner's on-site representative so the proposed grading limits can be extended to allow for the excess material to be placed and compacted on-site at no additional cost to the Owner.
11. Off-site removal or on-site processing of boulders to suitable size for use as fill materials.
12. Grading in stages as may be required due to phasing.
13. Over excavation of rock or highly plastic clays in utility trenches, mass graded areas, and roadways and replacement with compacted structural fill to eliminate rock and or highly plastic clays from the upper regions of fill mass.

14. Re-platting of topsoil and off-site disposal of excess topsoil to the area designated on Exhibit #2.
15. Dewatering.
16. Temporary excavation and filling as necessary to control storm water runoff and on-site erosion.
17. Undercutting of soft, unsuitable soils and "fat" clays and replace with compacted engineered fill.
18. Installation of stabilization fabric and stone as necessary.
19. Overfilling and cutting back fill slopes.
20. Moisture conditioning and re-compacting the on-site soils for suitable placement as structural fill as required.
21. Re-conditioning of previously compacted areas when soils get wet prior to acceptance and/or turning over of area to the owner.

B. Related Sections:

1. City of Huntsville Engineering of Public Works Department Standard Specifications 1991 Edition as modified in Supplement to General Requirements.

1.3 UNIT PRICES

A. All earthwork associated with this project shall be bid lump sum as unclassified to subgrade and/or cut line. This shall include, but not be limited to those items outlined in Section 1.2 above.

However, a certain portion of the earthwork will be handled with a quantity allowance with unit price being provided on **the proposal form** to be included in the base bid. The Owner's on-site representative will be solely responsible for determining the suitability of soils encountered.

Note that all unit prices (on bid form or Schedule of Values) are being provided for the addition to and deletion from the contract as required by changing field conditions during construction. The application of these allowances and unit prices shall be at the sole discretion of the Owner. Payment for all items will be made based on actual volume of excavation "In Place". The Owner's land surveyor will provide a topographic map of actual field conditions prior to and upon completion of excavation(Prior to replacing material).

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: Aggregate layer placed between the sub base course and hot-mix asphalt paving.

C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

D. Borrow Soil: Satisfactory soil imported from on-site for use as fill or backfill.

E. CutLine:

1. In a cut section, the cut line shall be defined as subgrade elevation or elevation required by other specified hold downs, over excavation, trench excavation, etc.
2. In roadway areas where highly plastic "fat clays" are encountered at subgrade elevation of within one (1) foot of subgrade elevation as determined by the Owner via test pits dug by the contractor, the cut line shall be one (1) foot below planned subgrade elevation and the over excavation shall extend five (5) feet beyond the curb line or proposed future curb line.
3. In a fill section, the cut line shall be defined as the elevation achieved upon completion of all topsoil stripping, grubbing operations, etc.to a maximum depth of 3' as approved by the Owner's on-site representative prior to placing fill material. An additional one (1) foot below defined above topsoil/grubbing removal elevation will also be the responsibility of the contractor and shall be included in their base bid (example: 4" strip topsoil + 1vf = 1.33 vf in base bid, or worst case scenario example: 3vf strip topsoil + 1vf = 4vf in base bid).
4. In all areas outside of the roadways and building pads where highly plastic "fat clays" are encountered at subgrade elevation of within one (1) foot of subgrade elevation as determined by the Owner via test pits dug by the contractor, the cut line shall be one (1) foot below planned subgrade elevation.

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 the Owner's on-site representative. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Owner's on-site representative. Unauthorized excavation, as well as remedial work directed by Owner's on-site representative, shall be without additional compensation for excavation or backfilling.

G. Fill: Soil materials used to raise existing grades.

H. 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.

I. Sub base Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement.

J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below sub base, drainage fill, drainage course, or topsoil materials.

K. Utilities: On-site overhead wires, poles, towers and underground pipes, conduits, ducts, and cables.

1.5 SUBMITTALS

A. Product Data: For each type of the following manufactured products required, submit six (6) copies to the owner for approval prior to installation:

1. Geotextiles.
2. Controlled low-strength material, including design mix.

B. Samples for Verification: For the following products, in sizes indicated below:

1. Geotextile: 12 by 12 inches.

C. Qualification Data: For qualified testing agency performing and providing construction material testing reports (CMTR's).

D. Material Test Reports: For each on-siteandborrow soil material proposed for fill and backfill, Contractor shall establish the area that needs testing a minimum of three (3) days prior to working in that area.

E. Blasting plan approved by the City of Huntsville Environmental Management and Natural Resources Department.

F. Seismic survey report from seismic survey agency meeting the City of Huntsville requirements.

G. Pre-excavation Photographs or Videotape: At the Contractor's discretion, show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by earth moving or blasting operations. Submit before earth moving or blasting begins. Information to be provided on a CD or in DVD format.

H. Contractor's Soil Material Management and Quality Control Plan

Purpose: It is required prior to bid that the Contractor *clearly understands* the requirements of the contract and project documents and specifications. The contract documents and specifications have specific criteria for suitable fill soils, material size and type, moisture and soil plasticity requirements, compaction, unclassified excavation, management of surface and subsurface water and other related items. Additionally, the bidders are required to understand and evaluate any site restrictions or limitations regarding availability and quantity of acceptable soil materials, off-site borrow requirements, excavation methods, blasting or other excavation restrictions.

Subsurface Information: Subsurface information provided by the Owner is of limited nature based on widely spaced exploratory borings and is only intended for design guidance purposes and should not be assumed to be sufficient to prepare a detailed or accurate site work bid. No representation is made in the report regarding the location, quantities or availability of different types of materials as required by the project documents and specifications. The geotechnical report provided by the Owner is not a contract document.

The bidders are therefore advised to attend the supplementary exploration provided by the Owner at the project site. Date to be determined via addendum. The bidders will make themselves familiar with the project and can use this supplementary exploration to determine

material types that will be encountered, borrow sources, excavation methods and sequence, dewatering requirements, availability and quantity of suitable soils etc.

Minimum Requirements of Soil Material Management and Quality Control Plan (SMM-QC): Within one (1) week of the Notice to Proceed, the Contractor shall prepare a Soil Material Management and Quality Control plan as generally outlined below and submit six (6) copies to the Owner for approval. Approval is required prior to earthwork activities commencing. As a minimum, the following sections will be addressed in the SMM-QC plan.

- 1.0 Applicable Specification Sections and Excavation/ Fill Placement Plan
- 2.0 On-site Management of Suitable and Unsuitable Materials
- 3.0 Blasting, Material Fragmentation, Vibration Control and Monitoring Plan
- 4.0 Materials Control, Segregation/Stockpile, Blending Plan and Construction Sequence
- 5.0 Field Verification of Suitable Soils for Specification Compliance
- 6.0 Soil and Rock Fill Placement and Compaction Methods
- 7.0 Moisture Control and Construction Area Site Drainage Management
- 8.0 Quality Control Sampling and Testing- Notification of Owners Testing Agent
- 9.0 Contractor Field Management and Supervision
- 10.0 Contractor QC Plans and Testing
- 11.0 Disposal of Unsuitable Materials
- Appendices – If applicable

The other specific items the plan should address include the following:

- Preconstruction Material Source Characterization Sampling and Testing
- Schedule of Production Operations
- Schedule of Materials Placement Operations
- Control Charts Used for Materials Management and Placement
- Contractor's Field Quality Control Procedure and Responsible Persons In-Charge

1.6 QUALITY ASSURANCE

A. Blasting: Apply for, and obtain, a blasting permit from the City of Huntsville. Comply with applicable requirements in NFPA 495, "Explosive Materials Code," and prepare a blasting plan for review reporting the following:

1. Types of explosive and sizes of charge to be used in each area of rock removal, types of blasting mats, sequence of blasting operations, and procedures that will prevent damage to site improvements and structures on Project site and adjacent properties.
2. Seismographic monitoring during blasting operations.
3. Any blasting near the TVA transmission line shall be coordinated with TVA, Benny Westmoreland, at 256-851-3450 at least 48 hours in advance of work.
4. Any blasting near the Huntsville Utilities temporary or permanent substations shall be coordinated with Huntsville Utilities, Trent Hall, at 256-652-8620 at least 48 hours in advance of work.
5. Any blasting near the Redstone Arsenal transmission or distribution lines shall be coordinated with Redstone Arsenal Directorate of Public Works, Jerry Robinson, at 256-876-3122 at least 48 hours in advance of work.

B. Seismic Survey Agency: An independent testing agency, meeting the City of Huntsville requirements, experienced in seismic surveys and blasting procedures, to perform the following services and submit this information to the Owner for review:

1. Report types of explosive and sizes of charge to be used in each area of rock removal, types of blasting mats, sequence of blasting operations, and procedures that will prevent damage to site improvements and structures on Project site and adjacent properties.
2. Seismographic monitoring during blasting operations.

C. Pre-excavation Conference: Owner will conduct a conference with all Contractors at the project site early in the construction phase.

1.7 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
3. Existing utilities shown on the drawings are from a combination of field locations, and utility company records. It is the Contractor's responsibility to field verify existing utilities prior to construction. This may require the Contractor to "pot hole" on top of the underground utility line to verify its location.
4. Demolish and completely remove from site existing underground and overhead utilities indicated to be removed. Coordinate with utility companies to shut off services if lines appear to be or are active.
5. Contours and existing topography shown on the drawings are believed to be reasonably correct. Contractor shall note that the existing topography was developed by the aid of a combination ground run and aerial survey. It shall be the Contractor's responsibility to determine any discrepancies which would affect his work, to make allowance for such discrepancies in the contract lump sum, and notify the Owner in writing of such discrepancies and allowances made prior to bidding.

B. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.

C. Do not commence earth moving operations until temporary erosion and sedimentation control measures are installed which are specified on the plans and per Section 671.

D. The following practices are prohibited within tree protection zones:

1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.

7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

E. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

1.8 REFERENCE STANDARDS

A. Follow current publications to the extent indicated by references thereto.

B. American Association of State Highway and Transportation Officials Standard Specifications (AASHTO).

C. American Society for Testing and Material (ASTM):

1.	D 422	Method for Particle Size Analysis of Soil.
2.	D 698	Tests for Moisture-Density Relations of Soils, Using 5.5 lb. (2.5 Kg) Rammer and 12-inch (304.8 mm) Drop (Standard Proctor).
3.	D 1556	Test for Density of Soil in Place by the Sand Cone Method.
4.	D 1557	Test for Moisture-Density Relations of Soils Using 10-lb. (4.5 Kg) Rammer and 18-inch (457 mm) Drop (Modified Proctor).
5.	D 1559	Test Method for Resistance to Plastic Flow of Bituminous Mixtures using Marshall Apparatus.
6.	D 2167	Test for Density of Soil in Place by the Rubber Balloon Method.
7.	D 2216	Laboratory Determination of Moisture Content of Soil.
8.	D 2487	Classification of Soils for Engineering Purpose.
9.	D 2922	Test for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
10.	D 3017	Test for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
11.	D 4318	Test Plastic Limit, Liquid Limit and Plasticity Index of Soils.
12.	C 25	Chemical Analysis of Limestone, Quicklime and Hydrated Lime.
13.	C 110	Physical Testing for Quicklime and Hydrated Lime, Wet Sieve Method.
14.	C 977	Quicklime and Hydrated Lime for Soil Stabilization.

D. Alabama Department of Transportation (ALDOT) Standard Specifications for Highway Construction, latest Edition.

E. City of Huntsville Standard Specifications for Construction of Public Improvements Contract Projects, latest edition.

F. State, City, or County Standards and Specifications, or other requirements.

G. State Law and OSHA requirements regulating construction activities near energized transmission lines.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials from on-site when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification Groups CL, ML, SP, SW, SC, SM, GW, and GP according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 4 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter. These soils maybe used within one (1) foot of the proposed roadway subgrade elevations.

1. Liquid Limit: Less than 50.
2. Plasticity Index: Less than 30.
3. Max Dry Density: Greater than 95 PCF.

C. Satisfactory Soils with restrictions: Soil Classification Groups CH according to ASTM D 2487; free of rock or gravel larger than 4 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter. These soils maynot be used within the upper one (1) foot of the proposed roadway subgrade elevations.

1. Liquid Limit: Less than 60.
2. Plasticity Index: Less than 35.
3. Max Dry Density: Greater than 95 PCF.

D. Unsuitable Soils: Soil Classification Groups CH, OH, GC, OL, MH, GM, and PT according to ASTM D 2487, or a combination of these groups.

1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction. Note that this does not apply to insitu soils.

2. CH soils with the following restrictions:
   a. Liquid Limit: Greater than 60.
   b. Plasticity Index: Greater than 35.

3. Fills: Topsoil; Excessive organics and/or deleterious material (greater than 5%); Frozen materials; construction materials; clods of clay and stones larger than 4" (unless otherwise specified); organic material, including silts; and inorganic material including silts which are too wet to be stable, or other materials identified by the Geotechnical Engineer and approved by the Owner.

4. Existing subgrade: Same materials as listed in paragraph 3 above that are not capable of direct support of slabs, pavement and similar items with the possible exception of improvement by compaction, proof rolling, or similar methods as directed by the Geotechnical Engineer and approved by the Owner.

E. Sub base Material: ALDOT 821: At least 90 percent passing the 1 ½ inch and no more than 35 percent passing a number 200 sieve.

F. Base Course: ALDOT 825B: 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 1-1/2inch sieve and not more than 12 percent passing a No. 200 sieve.

G. 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 1-1/2inch sieve and not more than 12 percent passing a No. 200 sieve.

H. 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 1inch sieve and not more than 8 percent passing a No. 200 sieve.

I. 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 1-1/2inch sieve and 0 to 5 percent passing a No. 8 sieve.

J. 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 1inch sieve and 0 to 5 percent passing a No. 4 sieve.

K. Sand: ASTM C 33; fine aggregate.

L. Structural Fill: Satisfactory soils and/or satisfactory soils with restrictions as noted above.

M. Permanent Pond Liner Material Impervious Fill: Clay soil(Unified Classification of CH) capable of compacting to a dense state with a permeability rate of 1 x 10-6cm/sec or less (e.g.. 5 x 10-7cm/sec).

2.2 GEOTEXTILES

A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefin's 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. Grab Tensile Strength: 157 lbf; ASTM D 4632.
3. Sewn Seam Strength: 142 lbf; ASTM D 4632.
4. Tear Strength: 56 lbf; ASTM D 4533.
5. Puncture Strength: 56 lbf; ASTM D 4833.
6. Apparent Opening Size: No. 60 sieve, maximum; ASTM D 4751.
7. Permittivity: 0.2 per second, minimum; ASTM D 4491.
8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

B. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, made from polyolefin's or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:

1. Survivability: Class 2; AASHTO M 288.
2. Grab Tensile Strength: 247 lbf; ASTM D 4632.
3. Sewn Seam Strength: 222 lbf; ASTM D 4632.
4. Tear Strength: 90 lbf; ASTM D 4533.
5. Puncture Strength: 90 lbf; ASTM D 4833.
6. Apparent Opening Size: No. 60 sieve, maximum; ASTM D 4751.
7. Permittivity: 0.02 per second, minimum; ASTM D 4491.
8. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

2.3 CONTROLLED LOW-STRENGTH MATERIAL

A. Controlled Low-Strength Material: Self-compacting, flowable concrete material produced from the following:

1. Portland Cement: ASTM C 150, Type II.
2. Fly Ash: ASTM C 618, Class C or F.
3. Normal-Weight Aggregate: ASTM C 33, 3/8 inch nominal maximum aggregate size.
4. Water: ASTM C 94/C 94M.
5. Air-Entraining Admixture: ASTM C 260.

B. Produce low-density, controlled low-strength material with the following physical properties:

1. As-Cast Unit Weight: 36 to 42 lb/cu. ft. Insert unit weight range at point of placement, when tested according to ASTM C 138/C 138M.
2. Compressive Strength: 140 psi, when tested according to ASTM C 495.

2.4 ACCESSORIES

A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils 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.

B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; 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 building structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.

B. Protect and maintain erosion and sedimentation controls during earth moving operations.

C. Protect subgrade and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrade, and from flooding Project site and surrounding area.

B. Protect subgrade 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.

2. Install dewatering system as necessary to keep subgrade dry and convey ground water away from excavations.

3. Install dewatering systems as necessary to keep utility trenches dry and convey ground water away from excavations.

3.3 EXPLOSIVES

A. Explosives: Obtain written permission from the City of Huntsville Environmental Management and Natural Resources Department before bringing explosives to Project site or using explosives on Project site.

1. Perform blasting without damaging adjacent structures, property, or site improvements.
2. Perform blasting without weakening the bearing capacity of rock subgrade and with the least-practicable disturbance to remaining rock.
3. Any blasting near the TVA transmission line shall be coordinated with TVA, Benny Westmoreland, at 256-851-3450 at least 48 hours in advance of work.
4. Any blasting near the Huntsville Utilities temporary or permanent substations shall be coordinated with Huntsville Utilities, Trent Hall, at 256-652-8620 at least 48 hours in advance of work.
5. Any blasting near the Redstone Arsenal transmission or distribution lines shall be coordinated with Redstone Arsenal Directorate of Public Works, Jerry Robinson, at 256-876-3122 at least 48 hours in advance of work.

3.4 EXCAVATION, GENERAL

A. Prior to commencing work, the contractor shall coordinate with the Owner's on-site representative for Proctor Testing and Atterberg limits at least three (3) days prior to working in an area to allow adequate time for testing.

B. When working underneath the TVA transmission line, any counterpoise that are uncovered or damaged during excavation shall be repaired/reburied immediately by the contractor at no expense to the Owner.

C. Unclassified Excavation: Excavate to cut line elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, unsuitable 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 without exceeding the following dimensions:

   a. 24 inches outside of concrete forms other than at footings.
   b. 12 inches outside of concrete forms at footings.
   c. 6 inches outside of minimum required dimensions of concrete cast vertically against grade.
   d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
   e. 24 inches beneath bottom of concrete slabs-on-grade.
   f. 12 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches wide.

3.5 EXCAVATION FOR STRUCTURES

A. Excavate to elevations and dimensions indicated in 1.4 Definitions Item E above within a tolerance of plus or minus one (1) tenth of a foot. 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 Underground Tanks, Basins, and Mechanical or Electrical Utility Structures: Excavate to elevations and dimensions indicated within a tolerance of plus or minus 1 tenth of a foot. Do not disturb bottom of excavations intended as bearing surfaces.

B. Excavations at Edges of Tree and PlantProtection Zones:

1. Excavate by hand to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

3.6 EXCAVATION FOR PAVEMENTS

A. Excavate surfaces under pavements as indicated in 1.4 Definitions E. above to the lines, cross sections, elevations, and subgrades within a tolerance of plus or minus one (1) One tenth of a foot.

3.7 EXCAVATION FOR UTILITY TRENCHES

A. Excavate trenches to indicated gradients, lines, depths, and elevations.

1. Beyond building perimeter, 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 higher than top of pipe or conduit unless otherwise indicated.

1. Clearance: 12 inches each side of pipe or conduit.

C. Trench Bottoms: Excavate trenches four (4) inches deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.

1. Excavate trenches eight (8) inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

D. Trenches in Treeand PlantProtection Zones:

1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

3.8 SUBGRADE INSPECTION

A. Notify Owner's on-site representative when excavations have reached required subgrade.

B. If it is determined that unsatisfactory soil is present, notify the Owner's on-site representative immediately before continuing excavation. Once approval is given by the Owner's on-siterepresentative, replace with compacted backfill or fill material as directed and per these specifications.

C. Proof-roll cut line below the building slabs and pavements with a pneumatic-tired and loaded 10wheel, tandem-axle dump truck weighing not less than 15 tons 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. Limit vehicle speed to 3 mph.

2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by the Owner's on-site representative and notify the Project Manager

immediately before continuing excavation. Once approval is given by the Project Manager, replace with compacted backfill or fill material as directed and per these specifications.

D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for unit prices.

E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Owner's on-site representative, without additional compensation.

3.9 UNAUTHORIZED EXCAVATION

A. Unauthorized excavation shall be properly filled without additional compensation to the contractor. Lean concrete fill, with 28day compressive strength of 2500 psi, may be used when approved by Owner's on-site representative.

1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Owner's on-site representative.

3.10 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.

2. Provide temporary seeding, mulching and silt fencing to eliminate erosion and control sediment.

3.11 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:

1. Construction below finish grade.
2. Allowing the Project Manager to survey locations of underground utilities for as-built drawings.
3. Testing and inspecting underground utilities.
4. Removing concrete formwork.
5. Removing trash and debris.
6. Removing temporary shoring and bracing, and sheeting.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.12 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 per Section 107 and 527.

C. Backfill voids with satisfactory soil while removing shoring and bracing.

D. Place and compact initial backfill of bedding material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.

1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

E. Place and compact final backfill of satisfactory soil to final subgrade elevation.

F. Install detectable warning tape directly above utilities, 18 inches above pipe.

3.13 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 pavements, use satisfactory soil material.
2. Under future building, use satisfactory soil material.

C. Place soil fills on subgrades free of mud, frost, snow, or ice.

D. Both soil moisture content and soil density shall be met for fill placement approval.

E. When working underneath the RSA transmission line, a conductor to ground clearance of twenty-four (24) feet must be maintained at all times. The contractor will be liable for any damage to RSAproperty and/or electrical outages caused by their work.

3.14 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. Utilize lime at three (3) percent to six (6) percent to help speed up soil drying. The actual amount of lime will be determined by a laboratory testing program.

3.15 COMPACTION OF SOIL BACKFILLS AND FILLS (excludes trench backfill – see 3.12 above)

A. Place backfill and fill soil materials in layers eight (8) to ten (10) inches in loose depth for material compacted by heavy compaction equipment, and not more than four (4) inches 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:

1. Under structures, future building pads, and pavements, scarify and re-compact top twelve (12) inches of existing subgrade and each layer of backfill or fill soil material at 98 percent and within +/- 2% of optimum moisture.
2. Under mass graded areas, scarify and re-compact top twelve (12) inches below subgrade and compact each layer of backfill or fill soil material at 98 percent and within +/- 2% of optimum moisture.

3.16 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 Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the tolerances listed in 3.5, 3.6, and 3.7.

C. Grading inside future Building Lines: Finish subgrade to a tolerance of one tenth of a foot.

D. Grade cut slopes as follows:
1. From the crest and proceed downward.
2. The toe and crest should be accurately located in the field prior to construction.
3. Routinely check grades along the slope face to verify that the slope is per plan.
4. Promptly vegetate the slope and do not allow storm water to drain over the face.

3.17 SUBSURFACE DRAINAGE

A. Subsurface Drain: Place subsurface drainage geotextile around perimeter of sub drainage trench. Place a six (6) inch course of filter material on subsurface drainage geotextile to support sub drainage pipe. Encase sub drainage pipe in a minimum of twelve (12) inches of filter material, placed in compacted layers six (6) inches thick, and wrap in subsurface drainage geotextile, overlapping sides and ends at least six (6) inches.

1. Compact each filter material layer to 90 percent of maximum dry unit weight according to ASTM D 698.

B. Drainage Backfill: Place and compact filter material over subsurface drain, in width indicated, to within twelve (12) inches of final subgrade, in compacted layers six (6) inches thick. Overlay drainage backfill with one layer of subsurface drainage geotextile, overlapping sides and ends at least 6 inches.

1. Compact each filter material layer to 90 percent of maximum dry unit weight according to ASTM D 698.
2. Place and compact impervious fill over drainage backfill in six (6) inchthick compacted layers to final subgrade.

3.18 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

A. Place base course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place 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 sub base course under hot-mix asphalt pavement.
3. Shape base course to required crown elevations and cross-slope grades.
4. Place base course six (6) inches or less in compacted thickness in a single layer.
5. Place base course that exceeds six (6) inches in compacted thickness in layers of equal thickness, with no compacted layer more than six (6) inches thick or less than three (3) inches thick.
6. Compact 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 base course to prevent lateral movement. Construct shoulders, at least twelve (12) inches wide, of satisfactory soil materials and compact simultaneously with each base layer to not less than 98 percent of maximum dry unit weight according to ASTM D 698.

3.19 FIELD QUALITY CONTROL

A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:

1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
2. Determine that fill material and maximum lift thickness comply with requirements.
3. Determine, at the required frequency, that in-place density of compacted fill complies with requirements.

B. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

D. 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 the Owner's on-site representative.

E. 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 one test for every 5,000 sq. ft. or less of paved area, but in no case fewer than three (3) tests.

2. Mass Graded Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 10,000 sq. ft. or less of mass graded area, but in no case fewer than two (2) tests.
3. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 100 feet or less of wall length, but no fewer than two (2) tests.
4. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 200 feet or less of trench length, but no fewer than two (2) tests.

F. 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 materials to depth required; re-compact and retest until specified compaction is obtained.

3.20 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and re-establish 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 the Owner's on-site representative; reshape and re-compact.

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.

3.21 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Stockpile surplus satisfactory soils, including low permeability clays and topsoil at a location designated by the Owner's on-site representative.

B. Remove surplus waste materials, including trash, and debris, and legally dispose of them off Owner's property.

END OF EARTHWORK

SECTION - PATHWAYS FOR COMMUNICATIONS SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General Requirements, Supplement to General Requirements, Special Conditions, and Supplemental Specifications, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Conduit, ducts, and duct accessories for directburied and concreteencased duct banks.
2. Handholes and boxes.
3. Manholes.

1.3 DEFINITION

A. RNC: Rigid nonmetallic conduit.

1.4 SUBMITTALS

A. Product Data: For the following:

1. Ductbank materials, including separators and miscellaneous components.
2. Ducts and conduits and their accessories, including elbows, end bells, bends, fittings, and solvent cement.
3. Accessories for manholes, handholes, boxes, and other utility structures.
4. Warning tape.

B. Shop Drawings for FactoryFabricated Precast Concrete Handholes and Boxes. Include dimensioned plans, sections, elevations, fabrication, and installation details, including the following:

1. Duct entry provisions, including locations and duct sizes.
2. Cover design.
3. Grounding details.
4. Dimensioned locations of cable rack inserts, pulling irons, and lifting irons.
5. Submittal to be signed and sealed by an Alabama licensed Professional Engineer.

C. DuctBank Coordination Drawings: Show duct profiles and coordination with other utilities and underground structures. Any conflicts that arise shall be brought to the attention of the Owner's Project Manager prior to ordering materials or installation.

1. Include plans and sections, drawn to scale, and show bends and locations of expansion fittings.

D. Product Certificates: For concrete and steel used in precast concrete manholes and handholes, as required by ASTM C 858.

E. Qualification Data: For professional engineer (an Alabama licensed Professional Engineer in good standing)and testing agency [Registered Communications Distribution Designer (RCDD)].

F. Source qualitycontrol test reports.

G. Field qualitycontrol test reports.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.

B. Comply with ANSI C2.

C. Comply with NFPA 70.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver ducts to Project site with ends capped. Store nonmetallic ducts with supports to prevent bending, warping, and deforming.

B. Store precast concrete underground utility structures at project site as recommended by manufacturer to prevent physical damage. Arrange so identification markings are visible.

C. Lift and support precast concrete units only at designated lifting or supporting points.

1.7 COORDINATION

A. Coordinate layout and installation of ducts, manholes, handholes, and boxes with final arrangement of other utilities, site grading, and surface features as determined in the field.

B. Coordinate elevations of ducts and ductbank entrances into manholes, handholes, and boxes with final locations and profiles of ducts and duct banks as determined by coordination with other utilities, underground obstructions, and surface features. Revise locations and elevations from those indicated as required to suit field conditions and to ensure that duct runs drain to manholes and handholes, and as approved by the General Contractor.

PART 2 - PRODUCTS

2.1 CONDUIT

A. RNC: NEMA TC2, Type EPC-40-PVC, UL651, with matching fittings by the same manufacturer as the conduit, complying with NEMA TC3 and UL 514B.

2.2 NONMETALLIC DUCTS AND DUCT ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, provide products by any of the following (or equal to):

1. Cantex, Inc.
2. CertainTeed Corp.; Pipe & Plastics Group.
3. Condux International, Inc.
4. ElecSys, Inc.
5. Lamson & Sessions; Carlon Electrical Products.

B. Underground Plastic Utilities Duct: NEMA TC 6 & 8, Type EB20PVC, ASTM F 512, UL 651A, with matching fittings by the same manufacturer as the duct, complying with NEMA TC 9.

C. Underground Plastic Utilities Duct: with matching fittings by the same manufacturer as the duct, complying with NEMA TC 9.

D. Duct Accessories:

1. Duct Separators: Factoryfabricated rigid PVC interlocking spacers, sized for type and sizes of ducts with which used, and selected to provide minimum duct spacing indicated while supporting ducts during concreting or backfilling.
2. Warning Tape: Undergroundline warning tape.

2.3 PRECAST CONCRETE HANDHOLES AND BOXES

A. Manufacturers: Subject to compliance with requirements, provide products by any of the following (or equal to):

1. Carder Concrete Products.
2. Christy Concrete Products.
3. Oldcastle Precast Group.

B. Comply with ASTM C 858 for design and manufacturing processes.

C. Description: Factoryfabricated, reinforcedconcrete, monolithically poured walls and bottom unless openbottom enclosures are indicated. Frame and cover shall form top of enclosure and shall have load rating consistent with that of handhole or box.

1. Frame and Cover: Weatherproof castiron frame, with castiron cover with recessed cover hook eyes and tamperresistant, captive, coversecuring bolts.

a. Cover Hinges: Concealed, with holdopen ratchet assembly.
b. Cover Handle: Recessed.

2. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
3. Cover Legend: Molded lettering, "TELEPHONE." As indicated for each service.
4. Configuration: Units shall be designed for flush burial and have closed bottom, unless otherwise indicated.
5. Extensions and Slabs: Designed to mate with bottom of enclosure. Same material as enclosure.

   a. Extension shall provide increased depth as required.
   b. Slab: Same dimensions as bottom of enclosure, and arranged to provide closure.

6. Windows: Precast openings in walls, arranged to match dimensions and elevations of approaching ducts and duct banks plus an additional 12 inches (300 mm) vertically and horizontally to accommodate alignment variations.

   a. Windows shall be located no less than 6 inches (150 mm) from interior surfaces of walls, floors, or frames and covers of handholes, but close enough to corners to facilitate racking of cables on walls.
   b. Window opening shall have cast-in-place, welded wire fabric reinforcement for field cutting and bending to tie in to concrete envelopes of duct banks.
   c. Window openings shall be framed with at least two additional No. 4 steel reinforcing bars in concrete around each opening.

7. Duct Entrances in Handhole Walls: Cast endbell or ductterminating fitting in wall for each entering duct.

   a. Type and size shall match fittings to duct or conduit to be terminated.
   b. Fittings shall align with elevations of approaching ducts and be located near interior corners of handholes to facilitate racking of cable.

8. Handholes shall have inserts for cable racks and pullingin irons installed before concrete is poured.

2.4 PRECAST MANHOLES

A. Manufacturers: Subject to compliance with requirements, provide products by any of the following (or equal to):

   1. Carder Concrete Products.
   2. Christy Concrete Products.
   3. Oldcastle Precast Group.

B. Comply with ASTM C 858, with interlocking mating sections, complete with accessories, hardware, and features.

   1. Windows: Precast openings in walls, arranged to match dimensions and elevations of approaching ducts and duct banks plus an additional 12 inches (300 mm) vertically and horizontally to accommodate alignment variations.

a. Windows shall be located no less than 6 inches (150 mm) from interior surfaces of walls, floors, or roofs of manholes, but close enough to corners to facilitate racking of cables on walls.
b. Window opening shall have cast-in-place, welded wire fabric reinforcement for field cutting and bending to tie in to concrete envelopes of duct banks.
c. Window openings shall be framed with at least two additional No. 4 steel reinforcing bars in concrete around each opening.

2. Duct Entrances in Manhole Walls: Cast endbell or ductterminating fitting in wall for each entering duct.

a. Type and size shall match fittings to duct or conduit to be terminated.
b. Fittings shall align with elevations of approaching ducts and be located near interior corners of manholes to facilitate racking of cable.

C. Concrete Knockout Panels: 1-1/2 to 2 inches (38 to 50 mm) thick, for future conduit entrance and sleeve for ground rod.

D. Joint Sealant: Asphalticbutyl material with adhesion, cohesion, flexibility, and durability properties necessary to withstand maximum hydrostatic pressures at the installation locations.

2.5 UTILITY STRUCTURE ACCESSORIES

A. Manufacturers: Subject to compliance with requirements, provide products by any of the following (or equal to):

1. Bilco Company (The).
2. Campbell Foundry Company.
3. Carder Concrete Products.
4. Christy Concrete Products.
5. Oldcastle Precast Group.

B. Manhole Frames, Covers, and Chimney Components: Comply with structural design loading specified for manhole.

1. Frame and Cover: Weatherproof, gray cast iron complying with ASTM A 48/A 48M, Class 30B with milled covertoframe bearing surfaces; diameter 29 inches (737 mm).

a. Cover Finish: Nonskid finish shall have a minimum coefficient of friction of 0.50.
b. Special Covers: Recess in face of cover designed to accept finish material in paved areas.

2. Cover Legend: Cast in. Selected to suit system.

a. Legend: "TELEPHONE" for communications, data, and telephone duct systems.

3. Manhole Chimney Components: Precast concrete rings with dimensions matched to those of roof opening.

a. Mortar for Chimney Ring and Frame and Cover Joints: Comply with ASTM C 270, Type M, except for quantities less than 2.0 cu. ft. (60 L) where packaged mix complying with ASTM C 387, Type M, may be used.

C. Manhole Sump Frame and Grate: ASTM A 48/A 48M, Class 30B, gray cast iron.

D. Pulling Eyes in Concrete Walls: Eyebolt with reinforcingbar fastening insert, 2inch (50mm) diameter eye, and 1by4inch (25by100mm) bolt.

1. Load Embedded in 6 inch (150mm), 4000psi (27.6MPa) Concrete: 13,000lbf (58kN) minimum ultimate tension [3250 lbf (15 kN) working load, FS=4].

E. Bolting Inserts for Concrete Utility Structure Cable Racks and Other Attachments: Flared, threaded inserts of noncorrosive, chemicalresistant, nonconductive thermoplastic material; ½ inch (13mm) ID by 2 ¾ inches (69 mm) deep, flared to 1 ¼ inches (32 mm) minimum at base.

1. Tested Ultimate Pullout Strength: 12,000 lbf (53 kN) minimum.

F. Expansion Anchors for Installation after Concrete Is Cast: Zincplated, carbonsteelwedge type with stainlesssteel expander clip with ½ inch (13mm) bolt, 5300lbf (24kN) rated pullout strength, and minimum 6800lbf (30kN) rated shear strength.

G. Cable Rack Assembly: Steel, hotrolled galvanized, except insulators.

1. Stanchions: T-section or channel; 2 ¼ inch (57mm) nominal size; punched with 14 holes on 1 ½ inch (38mm) centers for cable-arm attachment.
2. Arms: 1 ½ inches (38 mm) wide, lengths ranging from 3 inches (75 mm) with 450lb (204kg) minimum capacity to 18 inches (460 mm) with 250lb (114kg) minimum capacity. Arms shall have slots along full length for cable ties and be arranged for secure mounting in horizontal position at any vertical location on stanchions.
3. Insulators: Highglaze, wetprocess porcelain arranged for mounting on cable arms.

H. Cable Rack Assembly: Nonmetallic. Components fabricated from nonconductive, fiberglassreinforced polymer.

1. Stanchions: Nominal 36 inches (900 mm) high by 4 inches (100 mm) wide, with minimum of 9 holes for arm attachment.
2. Arms: Arranged for secure, dropin attachment in horizontal position at any location on cable stanchions, and capable of being locked in position. Arms shall be available in lengths ranging from 3 inches (75 mm) with 450lb (204kg) minimum capacity to 20 inches (508 mm) with 250lb (114kg) minimum capacity. Top of arm shall be nominally 4 inches (100 mm) wide, and arm shall have slots along full length for cable ties.

I. DuctSealing Compound: Non-hardening, safe for contact with human skin, not deleterious to cable insulation, and workable at temperatures as low as 35 deg F (2 deg C). Capable of withstanding temperature of 300 deg F (150 deg C) without slump and adhering to clean surfaces of plastic ducts, metallic conduits, conduit coatings, concrete, masonry, lead, cable sheaths, cable jackets, insulation materials, and common metals.

J. Fixed Manhole Ladders: Arranged for attachment to roof and floor of manhole. Ladder and mounting brackets and braces shall be fabricated from hotdipgalvanized steel.

K. Cover Hooks: Heavy duty, designed for lifts 300 lbf (1350 N) and greater. Four required.

2.6 UNDERGROUND DUCT APPLICATION

A. Underground Ducts for Telephone, Communications, or Data Utility Service Cables: RNC, NEMA Type EPC40 PVC. See drawings for details.

B. Underground Ducts Crossing Roadways: RNC, NEMA Type EPC40PVC, encased in reinforced concrete.

2.7 UNDERGROUND ENCLOSURE APPLICATION

A. Handholes and Boxes for Telephone, Communications, and Data Wiring:

1. Units in Roadways and Other Deliberate Traffic Paths: Precast concrete. AASHTO HB 17, H-20 structural load rating.
2. Units in Driveway, Parking Lot, and Off-Roadway Locations, Subject to Occasional, Non-deliberate Loading by Heavy Vehicles: Precast concrete, AASHTO HB 17, H-20.

B. Manholes: Precast concrete.

1. Units Located in Roadways and Other Deliberate Traffic Paths by Heavy or Medium Vehicles: H-20 structural load rating according to AASHTO HB 17.
2. Units Not Located in Deliberate Traffic Paths by Heavy or Medium Vehicles: H-10 load rating according to AASHTO HB 17.

2.8 EARTHWORK

A. Excavation and Backfill: Do not use heavyduty, hydraulicoperated, compaction equipment.

B. Restore surface features at areas disturbed by excavation and reestablish original grades, unless otherwise indicated. Replace removed sod immediately after backfilling is completed.

C. Restore areas disturbed by trenching, storing of dirt, cable laying, and other work. Restore vegetation and include necessary topsoil, fertilizing, liming, seeding, sodding, sprigging, and mulching. Comply with Supplement to General Requirements Sections 649, 651, 653, 655, 657, 659, 661, and 671.

2.9 DUCT INSTALLATION

A. Slope: Pitch ducts a minimum slope of 4 inches per 100 linear feet down toward manholes and handholes and away from buildings and equipment. Slope ducts from a high point in runs between two manholes to drain in both directions.

B. Curves and Bends: Use 5degree angle couplings for small changes in direction. Use manufactured long sweep bends with a minimum radius of 48 inches (1,220 mm), both horizontally and vertically, at other locations, unless otherwise indicated.

C. Joints: Use solventcemented joints in ducts and fittings and make watertight according to manufacturer's written instructions. Stagger couplings so those of adjacent ducts do not lie in same plane.

D. Duct Entrances to Manholes and Concrete and Polymer Concrete Handholes: Use end bells, spaced approximately 10 inches (250 mm) o.c. for 5inch (125mm) ducts, and vary proportionately for other duct sizes.

1. Begin change from regular spacing to endbell spacing 10 feet (3 m) from the end bell without reducing duct line slope and without forming a trap in the line.
2. DirectBuried Duct Banks: Install an expansion and deflection fitting in each conduit in the area of disturbed earth adjacent to manhole or handhole.
3. Grout end bells into structure walls from both sides to provide watertight entrances.

E. Building Wall Penetrations: Make a transition from underground duct to rigid steel conduit at least 10 feet (3 m) outside the building wall without reducing duct line slope away from the building, and without forming a trap in the line. Use fittings manufactured for ducttoconduit transition.

F. Sealing: Provide temporary closure at terminations of ducts that have cables pulled. Seal spare ducts at terminations. Use sealing compound and plugs to withstand at least 15psig (1.03MPa) hydrostatic pressure.

G. Pull Lines: Install 600lbtest tensile strength mule tape pull lines in ducts, including spares.

H. ConcreteEncased Ducts: Support ducts on duct separators.

1. Separator Installation: Space separators close enough to prevent sagging and deforming of ducts, with not less than 5 spacers per 20 feet (6 m) of duct. Secure separators to earth and to ducts to prevent floating during concreting. Stagger separators approximately 6 inches (150 mm) between tiers. Tie entire assembly together using fabric straps; do not use tie wires or reinforcing steel that may form conductive or magnetic loops around ducts or duct groups.
2. Concreting Sequence: Pour each run of envelope between manholes or other terminations in one continuous operation.

   a. Start at one end and finish at the other, allowing for expansion and contraction of ducts as their temperature changes during and after the pour. Use expansion fittings installed according to manufacturer's written recommendations, or use other specific measures to prevent expansioncontraction damage.
   b. If more than one pour is necessary, terminate each pour in a vertical plane and install ¾ inch (19mm) reinforcing rod dowels extending 18 inches (450 mm) into concrete on both sides of joint near corners of envelope.

3. Pouring Concrete: Spade concrete carefully during pours to prevent voids under and between conduits and at exterior surface of envelope. Do not allow a heavy mass of concrete to fall directly onto ducts. Use a plank to direct concrete down sides of bank assembly to trench bottom. Allow concrete to flow to center of bank and rise up in middle, uniformly filling all open spaces. Do not use powerdriven agitating equipment unless specifically designed for ductbank application.

4. Reinforcement: Reinforce concreteencased duct banks where they cross disturbed earth and where indicated. Arrange reinforcing rods and ties without forming conductive or magnetic loops around ducts or duct groups.
5. Forms: Use walls of trench to form side walls of duct bank where soil is selfsupporting and concrete envelope can be poured without soil inclusions; otherwise, use forms.
6. Minimum Space betweenDucts: 3 inches (75 mm) between ducts and exterior envelope wall, 2 inches (50 mm) between ducts for like services, and 4 inches (100 mm) between power and signal ducts.
7. Depth: Install top of duct bank at least 30 inches (750 mm) below finished grade.
8. Stub-ups: Use manufactured duct elbows for stub-ups at poles and equipment and at building entrances through the floor, unless otherwise indicated. Extend concrete encasement throughout the length of the elbow.

    a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches (75 mm) of concrete.
    b. Stub-Ups to Equipment: For equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches (1,500 mm) from edge of base. Install insulated grounding bushings on terminations at equipment.

9. Warning Tape: Bury warning tape approximately 12 inches (300 mm) above all concreteencased ducts and duct banks. Align tape parallel to and within 3 inches (75 mm) of the centerline of duct bank. Provide an additional warning tape for each 12inch (300mm) increment of ductbank width over a nominal 18 inches (450 mm). Space additional tapes 12 inches (300 mm) apart, horizontally.

I. DirectBuried Duct Banks:

1. Support ducts on duct separators coordinated with duct size, duct spacing, and outdoor temperature.
2. Space separators close enough to prevent sagging and deforming of ducts, with not less than 5 spacers per 20 feet (6 m) of duct. Secure separators to earth and to ducts to prevent displacement during backfill and yet permit linear duct movement due to expansion and contraction as temperature changes. Stagger spacers approximately 6 inches (150 mm) between tiers.
3. Excavate trench bottom to provide firm and uniform support for duct bank. Prepare trench bottoms as specified in Supplemental Specifications Earthwork Section 3.7. After installing first tier of ducts, backfill and compact. Start at tie-in point and work toward end of duct run, leaving ducts at end of run free to move with expansion and contraction as temperature changes during this process. Repeat procedure after placing each tier. After placing last tier, handplace backfill to 4 inches (100 mm) over ducts and hand tamp. Firmly tamp backfill around ducts to provide maximum supporting strength. Use hand tamper only. After placing controlled backfill over final tier, make final duct connections at end of run and complete backfilling with normal compaction.
4. Install ducts with a minimum of 3 inches (75 mm) between ducts for like services and 6 inches (150 mm) between power and signal ducts.
5. Depth: Install top of duct bank at least 30 inches (900 mm) below finished grade, unless otherwise indicated.
6. Install manufactured rigid steel conduit elbows for stubups at building entrances through the floor.

a. Couple steel conduits to ducts with adapters designed for this purpose, and encase coupling with 3 inches (75 mm) of concrete.

b. For equipment mounted on outdoor concrete bases, extend steel conduit horizontally a minimum of 60 inches (1,500 mm) from edge of equipment pad or foundation. Install insulated grounding bushings on terminations at equipment.

2.10 INSTALLATION OF CONCRETE MANHOLES, HANDHOLES, AND BOXES

A. Precast Concrete Handhole and Manhole Installation:

1. Comply with ASTM C 891, unless otherwise indicated.
2. Install unit level and plumb and with orientation and depth coordinated with connecting ducts to minimize bends and deflections required for proper entrances.
3. Unless otherwise indicated, support units on a level bed of crushed stone or gravel, graded from 1 inch (25mm) sieve to No. 4 (4.75mm) sieve and compacted to same density as adjacent undisturbed earth.

B. Elevations:

1. Manhole Roof: Install with rooftop at least 15 inches (380 mm) below finished grade.
2. Manhole Frame: In paved areas and trafficways, set frames flush with finished grade. Set other manhole frames 1 inch (25 mm) above finished grade.
3. Handhole Covers: In paved areas and trafficways, set surface flush with finished grade. Set covers of other handholes 1 inch (25 mm) above finished grade.
4. Where indicated, cast handhole cover frame integrally with handhole structure.

C. Manhole Access: Circular opening in manhole roof; sized to match cover size.

1. Manholes with Fixed Ladders: Offset access opening from manhole centerlines to align with ladder.
2. Install chimney, constructed of precast concrete collars and rings to support frame and cover and to connect cover with manhole roof opening. Provide moisturetight masonry joints and waterproof grouting for castiron frame to chimney.

D. Waterproofing: Apply waterproofing to exterior surfaces of manholes and handholes as required to prevent water infiltration.After ducts have been connected and grouted, and before backfilling, waterproof joints and connections and touch up abrasions and scars. Waterproof exterior of manhole chimneys after mortar has cured at least three days.

E. Hardware: Install removable hardware, including pulling eyes, cable stanchions, and cable arms, and insulators, as required for installation and support of cables and conductors.

F. Fixed Manhole Ladders: Arrange to provide for safe entry with maximum clearance from cables and other items in manholes. Ladders are required.

G. FieldInstalled Bolting Anchors in Manholes and Concrete Handholes: Do not drill deeper than 3 7/8 inches (98 mm) for manholes and 2 inches(50 mm) for handholes, for anchor bolts installed in the field. Use a minimum of two anchors for each cable stanchion.

H. Warning Sign: Install "Confined Space Hazard" warning sign on the inside surface of each manhole cover.

2.11 FIELD QUALITY CONTROL

A. Perform the following tests and inspections and prepare test reports:

1. Demonstrate capability and compliance with requirements on completion of installation of underground ducts and utility structures.
2. Pull aluminum or wood test mandrel through duct to prove joint integrity and test for out-of-round duct. Provide mandrel equal to 80 percent fill of duct. If obstructions are indicated, remove obstructions and retest.

2.12 CLEANING

A. Pull leatherwashertype duct cleaner, with graduated washer sizes, through full length of ducts. Follow with rubber duct swab for final cleaning and to assist in spreading lubricant throughout ducts.

B. Clean internal surfaces of manholes, including sump. Remove foreign material.

END OF PATHWAYS FOR COMMUNICATIONS SYSTEMS

Estimated Summary: BOM - Major & MinorMaterials

Designer: Allen Wright

Work Request: NCS-REDSTONE.W.2A

Est. Start Date: 08/11/2010

Est. Complete Date: 08/11/2010

Quantity	Code	UOM	Description
192.00	100008	EA	BOLTS, T-HEAD, 3/4x3 1/2
766.00	100010	EA	BOLTS, T-HEAD, 3/4x4
4.00	100165	EA	CAP, MJ, DI, 8
2.00	100175	EA	CAP, MJ, DI, 12
2.00	101925	EA	ELL, 45, MJ, 12
8.00	102025	EA	ELL, 90, MJ, 12
10.00	102305	EA	HYDRANT, FIRE, MJ, 4
32.00	102434	EA	GASKET, MJ, 6
29.00	102436	EA	GASKET, MJ, 8
74.00	102440	EA	GASKET, MJ, 12
50.00	103262	FT	PIPE, TYT, DI, 6, CL350
299.09	103264	FT	PIPE, TYT, DI, 8, CL350
3,847.30	103266	FT	PIPE, TYT, DI, 12, CL350
100.00	103615	FT	PIPE, MJ, DI, 8, CL52
40.00	103625	FT	PIPE, MJ, DI, 12, CL52
40.00	103705	FT	PIPE, CASING, STEEL, 24
32.00	104672	EA	RING, RESTRAINING, DI, 6
29.00	104674	EA	RING, RESTRAINING, DI, 8
74.00	104678	EA	RING, RESTRAINING, DI, 12
5.00	104715	EA	RING, SET SCREW, DI, 8
6.00	104725	EA	RING, SET SCREW, DI, 12
1.00	104830	EA	SLEEVE, SOLID, 12
2.00	105762	EA	SLEEVE, TAP (13.13" - 13.56" OD), FOR DI, SS, 12x6
1.00	105777	EA	SLEEVE, TAP (13.13" - 13.56" OD), FOR DI, SS, 12x1
2.00	105912	EA	TEE, SWIVEL, MJ, 8x6
6.00	105932	EA	TEE, SWIVEL, MJ, 12x6
5.00	106060	EA	TEE, MJ, DI, 12x8
3.00	106070	EA	TEE, MJ, DI, 12x12

Estimated Summary: BOM - Major & MinorMaterials

Designer: Allen Wright

Work Request: NCS-REDSTONE.W.2A

Est. Start Date: 08/11/2010

Est. Complete Date: 08/11/2010

Quantity	Code	UOM	Description
10.00	106810	EA	VALVE, GATE, MJ, 6
8.00	106815	EA	VALVE, GATE, MJ, 8
9.00	106825	EA	VALVE, GATE, MJ, 12
2.00	107005	EA	VALVE, TAP, F x MJ, 6
1.00	107020	EA	VALVE, TAP, F x MJ, 12
30.00	107501	EA	BOX, VALVE, 24x36

HUNTSVILLE UTILITIES WATER SYSTEM ATC MATERIAL LIST

SPECIAL CONDITIONS
for HUNTSVILLE UTILITIES WATER MAIN INSTALLATION/RELOCATIONS
CITY OF HUNTSVILLE STREET PROJECTS
REDSTONE GATEWAY PROJECT

1. OWNER SUPPLIED MATERIALS

Huntsville Utilities will supply all the following materials for this project:

All water materials, which shall include all 12" and smaller ductile iron pipe, all fire hydrants, fittings and appurtenances, valves, and valve boxes, service lines, fittings and other standard accessories needed for a complete installation.

Other items shall be supplied by the Contractor, unless otherwise specified.

The contractor shall be responsible for picking up materials at the Owner's warehouse on south Triana Boulevard and delivering to the job location, and for returning all unused materials upon completion of the work. Any materials required for this work which have not been shipped by the manufacturer to the Owner's warehouse may be scheduled for job site delivery at the request of the Contractor. The Contractor shall be solely responsible for protection and security of all materials once issued by the Owner. Any shortages arising due to damage, theft or any other reason shall be the responsibility of the Contractor. Replacement and/or repair materials may be purchased from the Owner for cost plus a 10% handling charge. All material issued by the Owner shall be accounted for before final acceptance and payment. Final payment may be reduced to cover the costs of materials issued but not returned or otherwise accounted for by the Contractor.

2. WATER MAIN INSTALLATIONS

All water mains shall be installed in accordance with the Huntsville Utilities Water Department. General Conditions and Technical Specifications, which shall hereby be made a part of the specifications for this project as if contained herein in their entirety. Copies of these documents are available from the Water Engineering office of Huntsville Utilities, located at 112 Spragins Avenue, Huntsville, Alabama. The successful bidders will be required to familiarize themselves with the requirements of these specifications prior to the installation of any water mains for this work. Contractors should especially take note of the sections of these specifications dealing with minimum clearances and separations between water mains and other utilities and with the requirements for Final Acceptance. Contractor shall be responsible for maintaining all clearances and coordinating installations with other utilities in terms of conflicts or scheduling.

3. OTHER UTILITIES

The location of other utilities, should be verified with all individual utilities, as should the status of any existing utility relocation projects. The Contractor shall be responsible for requesting all utility locations prior to starting work with 48 hour notice being required whenever possible. Any damages to other utilities shall be promptly repaired by the Contractor or affected utility, at the Contractor's expense.

4. BID ITEMS

A listing of the bid items and estimated quantities is included for the Bidder's convenience. Huntsville Utilities reserves the right to reject any or all bids or portions thereof, pertaining to the water facilities proposed for this project, and rebid the project or portion thereof or accomplish the work with its own crews.

5. NONPAYMENT ITEMS

Items for which no specific payment will be made shall include but not be limited to, the following; the costs of these items shall be included in the unit price or lump sum bids for each particular item of the work as specified in the Proposal.

a. No payment will be made for common excavation and backfill.
b. No payment will be made for rock excavation unless specifically stated otherwise in the Contract Documents.
c. No payment will be made for the installation of fittings, plugs, ells, tees, solid sleeves etc., unless specifically stated otherwise in the Contract Documents.
d. No payment will be made for the installation of concrete thrust blocking or threaded rods for thrust restraint.
e. No payment will be made for the installation of fire hydrant risers where needed to bring fire hydrants up to final grade, or for the adjustment of fire hydrants by other means. The Contractor may, however, trade standard hydrants for taller (or shorter) models at the time of installation by returning the hydrants to the Huntsville Utilities warehouse.
f. No payment will be made for pressure testing of water mains, unless specifically stated otherwise in the Contract Documents, and no payment will be made for the repairing all leaks found during pressure test or within the warranty period.
g. No payment will be made for pumps, gauges, fittings and other materials, or for other equipment or labor which may be required for testing of water mains, services, pumps, or other appurtenances, or for reservoirs, welding or paint systems.
h. No payment will be made for materials, equipment and labor required for the installation and/or removal of adequate facilities, including temporary valves if needed, at the end of

each main installed, whether or not such facilities are temporary or permanent, unless specifically stated otherwise in the contract Documents.

i. No payment will be made for the installation of concrete valve box pads, or for any required adjustment of valve box pads to final grade.

j. No payment will be made for the installation of granular backfill materials in streets, under driveways, or as bedding in rock, unless specifically stated otherwise in the Contract Documents.

k. No payment will be made for the installation of polyethylene encasement where required, unless specifically stated otherwise in the Contract Documents.

l. No payment will be made for the installation of casing pipe spacers and end seals where required.

m. No payment will be made for the installation of casing pipe spacers and end seals where required.

n. No payment will be made for trench excavation, including but not limited to, rock removal, or for any backfill materials installed at a depth greater than 6" below the pipeline or width greater than 24" plus the nominal pipe diameter.

o. No payment will be made for the picking up of any materials from the Huntsville Utilities warehouse.

p. No payment will be made for temporary surfacing or resurfacing of any paved or unpaved street or driveway.

q. No payment will be made for site preparation, including clearing, grubbing or restoration, unless specifically stated otherwise in the Contract Documents.

r. No payment will be made for unauthorized work of any kind.

s. No payment will be made for the removal and/or replacement of defective or unauthorized work.

t. No payment will be made for removal and/or replanting of trees and shrubs, or for replanting of grass or furnishing and installing sod, unless specifically stated otherwise in the Contract Documents.

u. No payment will be made for cleanup and maintenance of the work during construction or during the warranty period.

v. No payment will be made for traffic control safety devices.

w. No payment will be made for repairing other utilities and services damaged during the course of construction.

x. No payment will be made for removal and replacement of fences as required by construction.

y. No payment will be made for removal and replacement of culverts or storm drains where required.

z. No payment will be made for removal of any structure not listed as a pay item in the Proposal.

aa. No payment will be made for any delays caused by the existence of other utilities in the path of the proposed construction, painting or surface preparation operations.

ab. No payment will be made for any delays caused by weather or other acts of nature, or for

any delays caused by delayed inspection when proper advance notice is not given by the Contractor for any required inspections to be scheduled.

6. LARGE TAPS

All taps larger than 2" diameter will be made by Huntsville Utilities at no charge to the Contractor. The Contractor shall install and test the tapping sleeves and valves in accordance with Huntsville Utilities specifications before taps will be scheduled.

7. TIE-IN TO EXISTING LINES

Contractor shall be responsible for installing tees and valves and tieing into existing water lines for large domestic lines, fire lines, street crossing, etc. Each customer shall be notified at least one day in advance before new line is tied to existing lines. Arrangements must be made with all businesses requiring water service during peak business hours. All outages must be coordinated through the Engineer or Inspector.

8. FIRE HYDRANTS

Fire hydrants shall be located as shown on drawings and as close as possible to property and right-of-way lines. Exact locations may be shifted in the field by the Engineer or Huntsville Utilities Inspector as necessary once right-of-way and property lines are established. The Contractor shall verify the location of each fire hydrant with the inspector before installation.

9. OFFSETS AT CULVERTS

Relocations around storm drain culverts on existing water main shall be scheduled through Engineer or Inspector. Contractor shall tap existing water main, install new main around proposed storm drain, pressure test and disinfect installation and retie into existing water main. Major outage shall require 3 days advance notice and coordination with affected businesses.

End of Special Conditions for Water Main Installation

SECTION – LANDSCAPE

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. Extent of landscape development work is shown on drawings and in schedules.

B. Provide and furnish all labor, materials and equipment required or inferred from drawings and specifications to complete the work of this section.

C. Subgrade Elevations: Refer to civil plans provided by owner required to establish elevations as included in this contract.

1.2 QUALITY ASSURANCE

A. Reference Standards:
1. Standardized Plant Names, latest edition, by the American Joint Committee on Horticultural Nomenclature.
2. American Standard for Nursery Stock, latest edition, by the American Association of Nurserymen.

B. Source Quality Control:
1. General: Only plants grown in a recognized nursery in accordance with good horticultural practice will be accepted. Contractors must get approval from the Landscape Architect for any other nurseries prior to the bid date and time for consideration. If trees and plant material are not available from these approved nurseries, it shall be mentioned prior to the bid date and time.The following are pre-approved sources and plant material MUST be sourced and priced from these nurseries:
   a) Bold Spring Nursery
      770-267-9196
   b) Classic Groundcovers
      800-248-8424
   c) Merritt Brothers
      800-648-2006
   d) Select Tree
      706-769-9879
   e) Green Ridge Tree Farm
      205-612-1430
   h) Hunter Trees
      256-268-5890
2. Provide healthy, vigorous stock free of purple nut sedge, disease, insects, eggs, larvae, and defects such as knots, sunscald, injuries, abrasions, or disfigurement.
3. Inspection of plant material prior to digging: Contractor must locate all plant material to be supplied for the job and inform Landscape Architect in writing of location at least ten (10) days prior to digging. In the event plant material is found to be unacceptable, the Contractor will pursue other sources until acceptable plant material is found, at no additional cost to the Owner.
4. Ship landscape materials with certificates of inspection required by governing authorities. Inspection by Federal and/or State Governments at Grower does not preclude rejection of plants at the site by the Landscape

Architect. Comply with regulations applicable to landscape materials. Prepare plants for shipment to prevent damage to the plants.

C. Do not make substitutions: If specified landscape material is not obtainable, submit to Landscape Architect proof of non-availability and proposal for use of equivalent material. For proof of non-availability submit a written statement from a minimum of twelve (12) reliable Nursery Sources (American Nurserymen's Association Members) that the plant in question is not obtainable in the Eastern United States.

D. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.

E. Topsoil: Contractor shall engage a reputable laboratory to include testing and analysis of stockpiled topsoil on site. In the report, list fertilization and soil amendment recommendations to insure vigorous growth for all plants specified.

F. Approval and Selection of Materials and Work: The selection of all materials and the execution of all operations required under the specifications and drawings are subject to the approval of the Landscape Architect and the Owner. They have the right to reject any and all materials and any and all work, which in their opinion, does not meet the requirements of the Contract Documents at any stage of the operations. The Contractor shall remove rejected work and/or materials from job site and replace promptly.

1.3 SUBMITTALS

A. Certification: Prior to acceptance of plant material, submit certificates of inspection as required by governmental authorities, and manufacturer's or vendors certified analysis for soil amendments and fertilizer materials. Submit other data substantiating that materials comply with specified requirements. Submit seed vendor's certified statement for each grass seed mixture required, stating botanical and common name, percentage by weight, and percentages of purity, germination, and weed seed for each grass seed species.

B. Planting Schedule: Submit planting schedule showing scheduled dates for each type of planting in each area of site, prior to beginning of the work.

C. Maintenance Instructions: Upon completion of the installation, submit typewritten recommendations for maintenance of any portion of the landscape, which in the opinion of the Contractor, requires special attention.

D. Soil Report: Submit results of laboratory soil tests and sample of recommended soil mix one week prior to beginning of the work.

E. Approval: Obtain approval from Landscape Architect for all submittals prior to beginning of work, unless otherwise noted.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Packaged Materials: Deliver packaged materials in containers showing weight, analysis and name of manufacturer. Protect materials from deterioration during

delivery and while stored at site. (Plants shall not be transported in temperatures below twenty degrees (20°) Fahrenheit.)

B. Trees, Shrubs, and Ground Cover: Provide freshly dug trees and shrubs. Do not prune prior to delivery. Do not bend or bind-tie trees or shrubs in such a manner as to damage bark, break branches, or destroy natural shape or trees will be rejected. Provide protective covering during shipment.

C. Deliver trees, shrubs, and ground cover after preparations for planting have been completed and plant immediately. Do not store plant material on site more than 30 days. If planting is delayed more than six (6) hours after delivery, set trees, shrubs, and ground cover in shade, protect from weather and mechanical damage, and keep roots moist.

D. Do not remove container grown stock from containers until planting time.

E. Label at least one (1) tree and one (1) shrub of each variety with a securely attached waterproof tag bearing legible designation of botanical and common name.

F. Do not remove labels attached to plant material by the Landscape Architect until directed to do so.

1.5 JOB CONDITIONS

A. Insurance on plant material and other materials stored or installed is the responsibility of the Landscape Contractor. Such insurance shall cover fire, theft, and vandalism. Should the Contractor elect not to provide for such insurance, he will in no way hold the Owner responsible for any losses incurred by the aforementioned acts. The Landscape Contractor is responsible for all costs incurred in replacing damaged or stolen materials prior to provisional acceptance of the work.

B. Proceed with and complete landscape work as rapidly as portions of site become available, working within seasonal limitations for each kind of landscape work required.

C. Existing Utilities: Determine location of underground utilities. Perform work in a manner which will avoid possible damage. Excavate as required. Maintain grade stakes set by others, unless removal is mutually agreed upon by parties concerned. All damage to utilities resulting from work covered in these specifications will be repaired at the Contractor's expense.

D. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Landscape Architect in writing before planting.

E. Planting Time: Plant or install materials during suitable weather conditions.

F. Planting Schedule: Prepare a proposed planting schedule. Schedule dates for each type of landscape work during contract period. Coordinate schedule with General Contractor and Irrigation Contractor.

G. All temporary grassed area shall be killed and removed prior to beginning landscape work. All permanent grass areas disturbed during landscape work shall be re-seeded with grass mix to match.

1.6 WARRANTY

A. Warranty all trees, shrubs, and groundcover for a period of one (1) year from the date of substantial completion, against defects including death and unsatisfactory growth, in the opinion of the Landscape Architect and/or the Owner, except for defects resulting from neglect by Owner abuse or damage by others, or unusual phenomena or incidents, which are beyond Landscape Contractor's control. Should questions arise concerning responsibility of replacement the Landscape Architect will be available for arbitration provided the Owner and Landscape Contractor mutually desire.

B. Replacement of damaged plant material due to acts of God such as tornadoes, hurricanes, killing freeze or other factors beyond the Landscape Contractor's control should be negotiated by the Owner and the Landscape Contractor. The Landscape Architect will be available for arbitration provided the Owner and Landscape Contractor mutually desire.

C. Remove and replace all trees, shrubs, and groundcovers, or other plants found to be dead or in unhealthy condition during warranty period as determined by Landscape Architect or Owner. Make replacements as soon as weather conditions permit.

D. Replacements: Match adjacent specimens of same species. Replacements are subject to all requirements stated in this specification and subject to inspection by the Landscape Architect prior to digging.

E. Repair grades, paving, and any other damage resulting from replacement planting operations, at no additional cost to the Owner.

F. Inspect job site monthly during warranty period to determine what changes, if any, should be made in the maintenance program. Submit all recommended changes in writing to the Landscape Architect and the Owner.

PART 2 - PRODUCTS

2.1 TOPSOIL

A. Contractor shall backfill all planting beds to 6" depth and sod areas to 4" depth of topsoil, as required. Contractor shall remove all clay lumps, brush, weeds and other litter, and roots, stumps, stones larger than two-inches (2") in any dimension, and other extraneous or toxic matter harmful to plant growth.

2.2 SOIL AMENDMENTS

A. Lime: Natural limestone containing not less than eighty-five percent (85%) of total carbonates, ground so that not less than ninety percent (90%) passes a ten (10) mesh.

B. Forest or Peat Humus: Air-dried, shredded, and pH range suitable for intended horticultural use.

C. Bonemeal: Commercial, raw, finely ground; four percent (4%) nitrogen and twenty percent (20%) phosphoric acid.

D. Superphosphate: Soluble mixture of treated minerals; twenty percent (20%) available phosphoric acid.

E. Commercial Fertilizer: Complete fertilizer of neutral character, with some elements derived from organic sources and containing following percentages of available plant nutrients:

1. For trees and shrubs, provide fertilizer with not less than ten percent (10%) available phosphoric acid and from three percent (3%) to five percent (5%) total nitrogen and from three percent (3%) to five percent (5%) soluble potash.

2.3 PLANTING SOIL

A. Provide planting soil mix amended as per laboratory recommendations. Basic planting soil mix consists of:
(7) parts topsoil
(2) parts humus (forest or peat)
(1) part mushroom compost, flowers only
(1) part sand
Fertilizer as recommended
Cotton seed meal as recommended
Lime as recommended

2.4 PLANT MATERIALS

A. General:

1. Provide plants true to species and variety, complying with recommendations of ANSI Z60.1 "Standard for Nursery Stock".
2. Specific requirements concerning plant material and the manner in which it is to be supplied are shown on the drawings and plant list.
3. Acclimatization: Plants must have grown under climatic conditions (temperature extremes similar to those of the locality of the project site for a minimum of two (2) years immediately prior to being planted on the job).

B. Quality and Size:

1. Furnish nursery grown plants, freshly dug, normally shaped and well branched, fully foliaged when in leaf and with healthy well developed root systems. Plants to be free of insect infestations or their eggs and purple nut sedge.
2. Furnish plants to match as closely as possible whenever symmetry is called for.
3. Provide trees and shrubs of sizes shown or specified. Trees and shrubs of larger size may be used if acceptable to the Landscape Architect, and if sizes of roots or rootballs are increased proportionately. The increased size will not result in additional cost to the Owner.
4. Stock specified in a size range: Within each size range not less than fifty percent (50%) of the plants must be of the maximum size specified.
5. Balled and Burlapped Plants: Plants designated "B&B" are to have firm, natural balls of soil corresponding to sizes specified in ANSI Z60.1 "Standard for Nursery Stock". Balls to be firmly wrapped in burlap and securely tied with heavy twine, rope or wire baskets. Plants with loose, broken or manufactured rootballs will be rejected. Rootballs shall be lifted from the bottom only, not by stems or trunks.
6. Container grown plants in cans or plastic containers will be acceptable in lieu of balled and burlapped plants provided that they meet size and caliper specified. The container must be removed prior to planting, care being exercised as to not injure the plant.

C. Trees:

1. Provide trees of height and caliper listed or shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single stem trees except where special forms are shown or listed.
2. Provide self-supporting trees with straight trunks and leaders intact.
3. Determining dimensions for trees are caliper, height and spread. Caliper is measured six inches (6") above ground for trees up to and including four-inch (4") caliper. Trees over four-inch (4") caliper measure twelve inches (12") above ground. Height and spread dimensions specified refer to the main body of the plant and not from branch tip to tip. Take measurements with branches in normal position.
4. Tree Forms: Do not limb up tree forms more than two feet (2') before planting. Prune to desired shape as directed by Landscape Architect.

D. Ground Cover: Provide plants established and well-rooted in removable containers or integral peat pots and with not less than minimum number and length of runners by ANSI Z60.1 for the pot size shown or listed.

E. Grass Sod: Provide fresh, clean, new-crop Empire Zoysia sod complying with tolerance for purity and germination established by Official Seed Analysts of North America. Provide sod of grass species, proportions, and minimum percentages of purity, germination, and maximum percentage of weed seed, as specified.

2.5 MISCELLANEOUS LANDSCAPE MATERIALS

A. Burlap for wrapping earthball to be jute mesh not less than seven (7) pounds and two (2) ounces per square yard.

B. Stakes and deadmen: No. 2 or better uniform grade pressure treated pine LP-22, or sound new hardwood or redwood free of knot holes and other defects.

C. Anchors: No. 3 or No. 4 rebars or comparable size steel stakes.

D. Guys and Wire Ties: Two-strand, twisted, pliable galvanized steel wire not lighter than No. 10 gauge.

E. Hose: One-half inch (1/2") diameter black reinforced rubber or plastic garden hose, cut to required lengths to protect tree trunks from damage by wires. Used hose is acceptable.

F. Wrapping: Tree wrap tape not less than four inches (4") wide, designed to prevent borer damage and winter freezing.

G. Soil separator: Rot resistant polypropylene filters fabric, water permeable, and unaffected by freeze-thaw.

H. Drainage Gravel: Clean No. 57 crushed stone.

I. Mulch: Pine Straw - clean, fresh and free of branches, cones, foreign matter, insects and disease.

J. Anti-Erosion Mulch: Clean, threshed straw of wheat, rye, oats or barley.

K. Anti-Desiccant: Emulsion type, film-forming agent designed to permit transpiration but retard excessive loss of moisture from plants. Deliver in manufacturer's fully identified containers and mix in accordance with manufacturer's instructions.

L. Recognized Tree Paint: Color gray.

M. Pre-emergent Herbicide: Use appropriate herbicide for specific planting and season with approval of Landscape Architect. Deliver in manufacturer's fully identified containers and mix in accordance with manufacturer's instructions.

PART 3 - EXECUTION

3.1 PREPARATION

A. General:

1. Contractor must examine conditions under which planting is to be installed. Review applicable architectural and engineering drawings, and be familiar with alignment of underground utilities before digging.
2. Planting time: Planting operations are to be performed at such times of the year as the job may require, with the stipulation that the Contractor guarantees the plant material as specified herein. Plant only during periods when weather conditions are suitable.
3. Layout individual tree and shrub locations and areas for multiple plantings. Stake locations and outline areas and secure Landscape Architect's acceptance before start of excavation for planting work. Make adjustments as may be requested.
4. Notify Landscape Architect of adverse sub-surface drainage or soil conditions. State conditions and submit a proposal for correction including costs. Obtain approval for method of correction prior to continuing work in the affected area. In the event that alternate locations are selected, the contractor will prepare such areas at no additional expense to the Owner.

3.2 EXCAVATION

A. Excavation for Trees and Shrubs:

1. Excavate pits, beds and trenches with vertical sides, as specified and as shown on the drawings.
2. Loosen hardpan and moisture barrier to a depth of two feet (2') minimum below the bottom of the tree pit or until hardpan has been broken and moisture is allowed to drain freely. For shrub beds, loosen hardpan six-inch (6") minimum below bottom excavation.
3. For balled and burlapped (B&B) trees and shrubs, make excavations at least half again as wide as the ball diameter and equal to the ball depth, plus an allowance for setting of ball on a layer of compacted backfill. Allow for six-inch (6") minimum setting layer of planting soil mixture.
4. For container grown stock, excavate as specified for balled and burlapped (B&B) stock, adjusted to size of container width and depth.

B. Test Drainage:

1. Tree pits: Fill each tree pit with water. If percolation is less than fifty percent (50%) within a period of twelve (12) hours, drill a twelve-inch (12") auger to a depth of four feet (4') below the bottom of the pit. Fill augured pit with No. 57 stone and cover with soil separator. Retest percolation in pit.

2. Shrub and groundcover beds: Spot test shrub and groundcover beds.

C. Dispose of subsoil removed from landscape excavations. Do not mix with planting soil, use as backfill or use to construct saucers around plant pits.

3.3 PREPARATION OF PLANTING SOIL

A. Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful or toxic to plant growth.

B. Mix specified soil amendments and fertilizers with topsoil at rates specified. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.

C. For pit and trench type backfill, mix planting soil prior to backfilling.

D. For planting beds, mix planting soil either prior to planting or apply on surface of topsoil and mix thoroughly before planting:
1. Mix lime, if required, with dry soil prior to mixing of fertilizer.
2. Prevent lime from contacting roots of acid-loving plants.
3. Apply phosphoric acid fertilizer (other than that constituting a portion of complete fertilizers) directly to subgrade before applying planting soil and tilling.

3.4 SEASONAL COLOR

A. Preparation:
1. Prepare planting soil mix as specified.
2. Add six (6) inches of planting soil mix to excavated bed and roto-till into existing soil.
3. Add sufficient planting soil mix to raise entire bed six (6) inches above original grade.
4. Roto-till entire bed to a depth of eighteen (18) inches.

B. Planting:
1. Plant seasonal color as specified and at indicated spacing shown on plans.
   a. To prepare for tulips: Excavate bed eight (8) inches below finish grade. Evenly spread 12-4-8 fertilizer at thirteen (13) pounds per one hundred (100) square feet on surface of seasonal color planting soil mixture. Rake to mix in with soil mixture. Place bulbs and back fill with soil mix to finish grade.
   b. To prepare for pansies: Bring plant bed to finish grade with planting soil mix. Evenly spread 6-12-12 fertilizer at thirteen (13) pounds per one hundred (100) square feet and rake to mix in with soil.
   c. To prepare for summer annuals: Bring plant bed to finish grade with planting soil mix. Evenly spread 14-14-114 (Osmocote) fertilizer at thirteen (13) pounds per square feet and rake to mix in with soil.
2. Edge seasonal color bed and mulch as specified.
3. Water thoroughly.

3.5 PLANTING TREES AND SHRUBS

A. Set balled and burlapped (B&B) stock on layer of compacted planting soil mixture, plumb and in center of pit or trench with top of ball two inches (2") to three inches (3") above the finish grade and also two inches (2") to three inches

(3") above the grade they bore to natural grade before transplanting. Remove burlap from sides of balls; retain on bottoms. Remove all wire and ropes from rootball. Use planting soil mixture to backfill plant pits. When plants are set, place additional backfill around base and sides of ball, and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately two-thirds (2/3) full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill.

B. Set container grown stock as specified for balled and burlapped stock, except cut cans on two sides with an approved can cutter and remove bottoms of wooden boxes after partial backfilling so as not to damage rootballs.

C. Disk top of backfill to allow for mulching.

D. Form shallow saucers to the finished grade outside the tree pit approximately four-inch (4") height, capable of holding water about each plant by placing a mound of topsoil around the edge of each filled-in pit.

E. Apply anti-desiccant using power spray to provide an adequate film over trunks, branches, stems, twigs and foliage. If deciduous trees or shrubs are moved in full leaf, spray with anti-desiccant at nursery before moving and again after planting as per manufacturer's recommendations.

F. Mulching Pine Straw: Immediately after planting work has been completed, mulch pits, trenches and planting beds. Provide not less than three-inch (3") thickness of mulch. Finish edges according to detail.

G. Water: Soak all plants immediately after planting, continue watering thereafter as necessary until acceptance of the work in total.

H. Smooth planting areas to conform to specified grades after full settlement has occurred and mulch has been applied.

3.6 STAKING, GUYING AND PRUNING

A. Stake and guy trees immediately after planting. Plants shall be plumb after staking or guying. Maintain stakes, wires and guys until acceptance of the work in total. Staking of trees in parking lot islands are an exception to this section.

B. Staking trees of one-inch (1") to three-inch (3") caliper: Drive stakes securely into ground and fasten to tree with wire and tie. Use hose around wire so wire is not in contact with plant. Adhere to staking details unless alternate detail has been approved by Landscape Architect prior to beginning of planting operation.

C. Staking trees of one-inch (1") and under or four feet (4') height: Use single stake with rubber hose and wire loop around trunk.

D. Guy trees according to detail. Position guys around trunk at approximately two-fifths (2/5) the height of the tree. Anchor guys in ground either to notched stakes or steel rods driven securely into ground with top end three inches (3") below finish grade.

E. Pruning: Unless otherwise directed by the Landscape Architect do not cut tree leaders, and remove only injured or dead branches from trees, if any. Prune shrubs at the direction of the Landscape Architect.

F. Remove and replace promptly any plants pruned or misformed resulting from improper pruning.

G. Paint wounds and cuts over three-quarter inches (3/4") in diameter with approved tree paint designed for this purpose. Cover all exposed living tissue.

H. Wrap tree trunks of two-inch (2") caliper and larger. Start at ground and cover trunk to height of first branches and securely attach. Inspect tree trunks for injury, improper pruning and insect infestation and take corrective measures before wrapping.

3.7 INSTALLING LAWNS

A. Sodding New Lawns:
   1. Water soil prior to receiving sod.
   2. Lay sod within twenty-four (24) hours from time of stripping. If not possible, sod may be stored on site up to thirty-six (36) hours after stripping provided sod is properly protected: unstack, unroll and place in shade and keep moist until installation.
   3. Do not lay dormant sod.
   4. Do not lay sod on frozen ground.
   5. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Tamp or roll lightly to ensure contact with subgrade. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent grass.
   6. Anchor sod on slopes with wood pegs to prevent slippage. Lay sod perpendicular to slope direction.
   7. Water sod thoroughly with a fine spray immediately after planting until soil is damp to a depth of four inches (4").

B. Sowing Turf Grass:
   1. Preparation
      a. Grade seedbeds, thoroughly removing ridges and depressions, and making areas smooth, continuous and firm planes that ensure positive drainage. Preparation and grading to be approved by Landscape Architect prior to seed sowing.
      b. Remove soil lumps, rocks, sticks and other deleterious material.
   2. Sowing with a seeder approved for that purpose by the Landscape Architect.
      a. Sowing with a seeder approved for that purpose by the Landscape Architect.
      b. Sow grass seed at the rate of 2 pounds per one thousand (1,000) square feet.
      c. Rake seed lightly into top one-eighth inch (1/8") of soil, roll lightly and water with a fine spray.
      d. Protect seeded areas against erosion by spreading lawn mulch of hay after seeding. Spread uniformly to form a continuous blanket not less than one and one-half inch (1-1/2") loose measurement over seeded area.
      e. Keep area moist throughout the germination period.

3.8 MAINTENANCE

A. Begin maintenance immediately after planting.

B. Maintain trees, shrubs and other plants until substantial completion.

C. Maintain trees, shrubs and other plants by watering, pruning, cultivating, weeding, and re-mulching as required for healthy growth. Restore planting saucers. Tighten and repair stake and guy supports and reset trees and shrubs to proper grades or vertical position as required. Restore or replace damaged wrappings. Spray as required to keep trees and shrubs free of insects and disease.

3.9 CLEAN UP AND PROTECTION

A. During landscape work, keep pavements clean and work area in an orderly condition.

B. Upon completion of work, clear grounds of debris, superfluous materials and all equipment. Remove from site to satisfaction of Landscape Architect and Owner.

C. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed, at no additional cost to the Owner.

D. Theft: Landscape Contractor is responsible for theft of plant material at the job site before, during and after planting, until the date of provisional acceptance of the work in total.

3.10 INSPECTION, ACCEPTANCE, RETAINAGE AND PAYMENT

A. Progress Payments may be applied for pertaining to installed work only.

B. Upon completion of work, notify Landscape Architect and Owner at least ten (10) days prior to requested date of inspection for provisional acceptance. Where inspected landscape work does not comply with requirements, replace rejected work and continue specified maintenance until re-inspected by Landscape Architect and found to be acceptable. Remove rejected plants and materials promptly from project site.

C. Upon satisfactory completion of repairs and/or replacements, the Landscape Architect certifies, in writing, the provisional acceptance of the work in total.

D. Final Acceptance: One year after provisional acceptance of the work in total the Landscape Architect and the Owner inspect the work for final acceptance. Upon satisfactory completion of repairs and/or replacements the Landscape Architect certifies, in writing, the final acceptance of the work.

E. All planting and plant material required in these specifications must be in satisfactory condition and accepted by the Landscape Architect when the Contractor applies for final payment.

F. Approval of Final Acceptance is evidence of completion and acceptance of the work required in these specifications. Payment made by the Owner to the Contractor pursuant to the issuance of Final Acceptance Certificate shall be deemed to be accepted by all parties hereto as the final payment for the work specified herein.

END OF LANDSCAPE

SECTION – IRRIGATION SYSTEM

PART I - GENERAL

1.1 DESCRIPTION

A. Work includes: Provide a shop drawing designed irrigation system as specified herein, and install, complete in place, tested and approved, including but not necessarily limited to:
   1. Lawn and shrub sprinkler system
   2. Automatic controller and remote control valves

B. Related work:
   1. Documents affecting work of this Section include, but are not necessarily limited to: General Conditions, Supplementary Conditions, and Sections in AIA Document A107.

1.2 QUALITY ASSURANCE

A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 SUBMITTALS

A. Product data: Within fifteen (15) calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
   1. Shop drawing of required system to be reviewed and approved by the Landscape Architect.
   2. Materials list of items proposed to be provided under this Section;
   3. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
   4. Manufacturer's recommended installation procedures which, when approved by the Landscape Architect, will become the basis for accepting or rejecting actual installation procedures used for the Work.
   5. As-Built Drawings: Any changes in the layout and/or arrangements of the proposed irrigation system, or any other differences between the proposed system and actual installed conditions are to be recorded by the Irrigation Contractor in the form of an "As-Built" drawing. Provide the Owner and the Landscape Architect with a copy of the drawings before work under this Contract will be considered for acceptance. All isolation valve locations shall be shown with actual measurements to reference points so they may be located easily in the field.

1.4 WARRANTY

A. Warranty all work for a period of two (2) years after date of final acceptance of the work in total, against defects in materials, equipment, workmanship and any repairs required resulting from leaks or other defects of workmanship, material or equipment.

B. Repair unsatisfactory conditions promptly at no cost to the Owner.

C. Emergency repairs may be made by the Owner without relieving the Irrigation Contractor of his warranty obligations.

D. Repair settling of backfilled trenches occurring during the warranty period, including restoration of damaged plantings, paving or improvements resulting from settling of trenches or repair operations.

E. Respond to Owner's request for repair work within ten (10) days. If not Owner may proceed with such necessary repairs at the Contractor's expense.

PART 2 - PRODUCTS

2.1 PIPE

A. Plastic pipe:
1. Use three quarter inch (3/4") and one inch (1") sizes, Class 200 polyvinyl chloride; one and one-quarter inch (1-1/4") and up, Class 160 polyvinyl chloride bearing the seal of the National Sanitation Foundation, unless otherwise specified by local codes.
2. Fittings: Use Schedule 40 polyvinyl chloride, type I-II, bearing the seal of the National Sanitation Foundation, and complying with ASTM D2466.
3. For joining, use a solvent complying with ASTM D2466 and recommended by the manufacturer of the approved pipe.
4. Plastic pipe identification: Continuously and permanently mark with manufacturer's name, pipe size, schedule number, type of material, and code number.

2.2 RISERS

A. Lawn heads: Polyethylene cut-off type or swing joints.

B. Shrub head: Use Schedule 80 threaded PVC.

C. Quick coupling valves: Use Schedule 80 PVC. Pipe nipples and Schedule 40 Street Ells as a three elbow swing joint to permit readjustment of valve angle.

2.3 VALVES

A. Gate valve:
1. Provide one hundred and twenty-five (125) pound rated screwed valve of size required for the line.
2. Acceptable manufacturers:
a. Harvard
b. Crane; or approved equal

B. Quick coupling valves:
1. Provide specified size, one-piece construction, all brass to fit single or double lug couplers.
2. Deliver to the Owner the following items, all matching the approved quick coupling valves:
a. coupler keys - quantities as specified
b. hose swivels - quantities as specified
3. Acceptable manufacturers:
a. Toro
b. Rainbird

2.4 MANUAL AND AUTOMATIC VALVE SLEEVES

A. For manual control valve: Provide flexible plastic sleeve and four inch (4") cycolac marker.

B. For gate valves:
   1. Provide round reinforced plastic boxes with lids, with the word "WATER" cast into the lids.
   2. Acceptable manufacturers:
      a. Ametek

2.5 SPRINKLER HEADS

A. Provide the sprinkler heads shown on the schedule on the approved Shop Drawings.

2.6 BACKFLOW PREVENTER

A. Contractor shall provide double check type backflow preventer.
   1. Approved manufacturer: Watts #700 or approved equal.

2.7 OTHER MATERIALS

A. Provide other materials, not specifically described but required for a complete and proper installation as selected by the Contractor subject to the approval of the Landscape Architect.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.

3.2 FIELD MEASUREMENTS

A. Make necessary measurements in the field to ensure precise fit of items in accordance with the approved design.

3.3 TRENCHING AND BACKFILLING

A. Trench, backfill, and compact in accordance with the detail on the drawings.

3.4 INSTALLATION OF PIPING

A. General:
   1. Lay out the piping system in accordance with arrangement shown on the approved Shop Drawings.
   2. Unless otherwise indicated, comply with requirements of Uniform Plumbing Code.

B. Piping depth: Install piping with at least the following minimum depth:
   1. Main lines - 18"
   2. Laterals - 12"

C. Plastic pipe:
   1. Exercise care in handling, loading, unloading, and storing plastic pipe and fittings:
      a. Store under cover until ready to install.
      b. Transport only in a vehicle with a bed long enough to allow the pipe to lay flat to avoid undue bending and concentrated external load.

2. Repair dented and damaged pipe by cutting out and discarding the dented or damaged section, and rejoining with a coupling.
3. In jointing, use only the specified solvent and make joints in accordance with the manufacturer's recommendations as approved by the Landscape Architect.
4. Center load plastic pipe with a small amount of backfill to prevent arching and whipping under pressure.
5. For plastic-to-steel connections:
   a. Work the steel connection first.
   b. Use Teflon tape on threaded plastic-to-steel connections.
   c. Use only light wrench pressure.

3.5 INSTALLATION OF EQUIPMENT

A. Install manual and automatic control valves where indicated on the approved Shop Drawings and in accordance with the manufacturer's recommendations as approved by the Landscape Architect.

B. Quick coupling valves:
   1. Install in lawn areas with the top flush with the finish grade, and eight inches (8") from pavements and heads.
   2. Install in planting areas with tops two inches (2") above grade and eight inches (8") from pavement and heads.

C. Lawn sprinkler heads:
   1. All lawn areas are to be irrigated by separate zones.
   2. Install where indicated on the approved Shop Drawings and in accordance with the manufacturer's recommendations as approved by the Landscape Architect.
   3. Set heads at finished grade.

D. Shrub spray heads:
   1. All shrub areas are to be irrigated by separate zones.
   2. Install where indicated on the approved Shop Drawings and in accordance with the manufacturer's recommendations as approved by the Landscape Architect.
   3. Set tops of heads to height prescribed by the Landscape Architect.

3.6 TESTING AND INSPECTING

A. Testing: The following items should be completed after installation but before the irrigation system is covered.
   1. Notify Landscape Architect twenty-four (24) hours prior to pressure test. Unless otherwise instructed, Landscape Architect shall be present at pressure test.
   2. Make necessary provision for thoroughly bleeding the line of air and debris.
   3. After valves have been installed, test live water lines for leaks at a pressure of one hundred (100) psi for a period of two (2) hours, with a five (5) psi pressure loss.
   4. Observe lateral lines for leaks during operation.
   5. Provide required testing equipment and personnel.
   6. Repair leaks, and retest until acceptance by the Landscape Architect.

B. Final inspection:
   1. Clean, adjust, and balance all systems. Verify that:
      a. Remote control valves are properly balanced.
      b. Heads are properly adjusted for radius and arc of coverage.
      c. The installed system is workable, clean and efficient.

3.7 INSTRUCTIONS

A. Attach legible, laminated legend inside each controller door, stating the areas covered by each remote control valve.

B. After the system has been completed, inspected, and approved instruct the Owner's maintenance personnel in the operation and maintenance of the system.

END OF IRRIGATION SYSTEM

SECTION – MAINTENANCE

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work Included:

1. The Grounds Maintenance Agreement is to include the complete care and guarantee of all planted trees, plants, groundcovers, and sod areas within the limits of work shown on the Landscape Planting Plans.

B. Related Work:

1. Documents affecting the work of this Section include, but are not necessarily limited to, General Conditions and Sections in Division 1 of these Specifications.

1.2 QUALITY ASSURANCE

A. The Maintenance Contractor is hereby made aware that both the Owner and the Landscape Architect anticipate that the Landscape Maintenance at this site shall be of the very highest quality possible.

B. All work to be performed such as pruning, mowing, fertilizing, watering, weeding, edging, spraying, policing, plant installation, over-seeding, aerating, and mulching shall be strictly managed and executed and performed by experienced personnel.

C. The Owner shall be insured of a complete maintenance program and plant guarantee for all trees, plants, and mulched areas such that the quality of planting does not deteriorate, but obtains vitality and healthy new growth for the duration of the Agreement.

D. The Grounds Maintenance Contractor must take every precaution to prevent saturation of the plant material during the life of the Agreement (i.e., diversion swales, installation of underdrains if needed, removal of mulch and tree saucers when necessary, and/or raising distressed plant material when necessary).

E. Guarantee of Plant Material:

1. The Grounds Maintenance Contractor guarantees and will replace, at no additional cost to the Owner, 100% of the plants which, in the opinion of the Landscape Architect, fail to maintain a healthy, vigorous condition (excluding theft or vandalism) regardless of the Contractor responsible for the initial installation. Replacement plant material shall meet all specifications as listed in the Landscape Specifications and Plant List in regard to species, variety, color, and quality. Size of replacement plant material shall equal that of the plant which is being replaced and/or the size of existing adjacent like specimens.
2. The Contractor is responsible for "treating" problem plant material and shall outline immediate steps to correct problems or improve performance of the plant.
3. In the event that the performance of the Landscape Maintenance Contractor should fail to satisfy the expectations and standards set forth in this Section of Specifications as interpreted by the Owner and the Landscape Architect, the Owner reserves the right to obtain others to perform such duties and deduct all costs from the Maintenance Contractor's payments.

1.3 SUBMITTALS

A. Comply with pertinent provisions of Section 1300

B. Schedule:

1. Prior to beginning work on this contract the Grounds Maintenance Contractor is to provide the Owner with a detailed schedule of how the work is to be accomplished. The

schedule is to include target dates for all work performed under this contract, time estimates for task completion, and anticipated labor forces.

PART 2 – PRODUCTS

2.1 SOIL ADJUSTMENTS

A. Soil is to be maintained at the pH levels noted under Section 02900 of these specifications.

B. Soil pH adjustments (from Princeton Nurseries "How to Adjust Soil pH"):

1. To raise soil pH one point: Spread ground limestone.

SOIL TYPE (Per 1000 SF)	LIMESTONE (Per acre)	LIMESTONE
Sandy Loam	80 lbs.	1 1/2 tons
Loam	110 lbs.	2 tons
Clay Loam	120 lbs.	2 1/2 tons

2. To lower soil pH one point: Spread powdered sulfur and aluminum sulfate.

SOIL TYPE SULFUR (Per 1000 SF)	POWDERED SULFUR (Per acre)	POWDERED
Sandy Loam	7 lbs.	300 lbs.
Loam	10 lbs.	430 lbs.
Clay Loam	14 lbs.	600 lbs.

SOIL TYPE SULFATE (Per 1000 SF)	ALUMINUM SULFATE (Per acre)	ALUMINUM
Sandy Loam	50 lbs.	2000 lbs.
Loam	70 lbs.	3000 lbs.
Clay Loam	90 lbs.	3500 lbs.

3. Use one-half (1/2) the above applications to lower the pH one point on established plantings (preferably in the dormant season). Cultivate thoroughly, by hand, into the one (1) to two (2) inches of soil above the plant roots, avoiding damage to the root systems.

2.2 APPLICATIONS OF INSECTICIDES AND PESTICIDES

A. Recommended treatment application. See following chart:

INSECTICIDES AND PESTICIDES
APPLY AS PER MANUFACTURER'S INSTRUCTIONS
INSECT CONTROL CHART

NAME OF PEST/ (Comments)	INSECTICIDE	HYDRAULIC SPRAYER FORMULA (Per 100 Gal. Water)	MIST BLOWER (Per 100 Gal. Water)
Aphids (Apply when noticed)	Malathion	1 qt	4 1/2 gal
Lace Bugs (2 sprays, 2-3 wks. apart	Malathion 50% Emulsion	1 qt	4 1/2 gal
Leaf Hoppers (Repeat if necessary)	Methoxychlor	3 lbs	
Scale Insects-Crawling Stage (First spray in early June. Repeat in 3 weeks)	Methoxychlor 25% E.C.	2 qts.	3 gal
Scale Insects-Dormant (Spray only when temp. is above 45 degrees F)	Superior Type Dormant Oil	3 gals.	5 gal
Spider Mites (Two sprays 3 wks apart)	Malathion	1 qt	4 1/2 gal
Other Special Miticides	Manuf. Dir.	Manuf. Dir.	
Canker Worms (Inch Worms) (While foliage is young)	Methoxychlor 50% Wettable Powder	3 lbs.	
All Other Leaf Eating Caterpillars (When noticed)	Same as for Canker Worms		
Bag Worms (Early to middle June)	Diazinon	1 lb.	

INSECT CONTROL CHART continued

NAME OF PEST/ (Comments)	INSECTICIDE	HYDRAULIC SPRAYER FORMULA (Per 100 Gal. Water)	MIST BLOWER (Per 100 Gal. Water)
(When adults emerge)	Malathion 50% Emulsion	1 qt	4 1/2 gal
Japanese Beetle (When adults emerge)	Sevin 50% Wettable Powder	2 lbs.	
Other Leaf-Eating Beetles (When noticed)	Same as for Elm Leaf Beetle		
Birch Leaf Miner (When new growth has 4 or 5 leaves showing or when miners are 2/3 in. in diameter)	Malathion 50% Emulsion	1 qt	4 1/2 gal
	Meta-systox-R 25% SC	1 1/2 pts	
Locust Pod Gall (April when Buds show green)	Lindane 20% EC	1 pt	
Mimosa Web Worms (When first noticed)	Sevin	2 lbs 50% Wettable Powder	

B. All insecticides and pesticides are to be applied by a person who maintains a valid Texas insecticide and pesticides applicator and operations license.

C. All chemicals are to be applied per manufacture recommendation and in strict accordance with federal, state, county, and city directives on environmental control. Chemicals must have an EPA approval number.

2.3 APPLICATION OF FERTILIZER

A. Recommended application times and rates:

FERTILIZING SUMMARY

PLANT TYPE	TIME OF APPLICATION	FERTILIZER	RATE OF APPLICATION
Shade Trees	February	8-12-12	1 cup/inch in caliper of tree
Ornamental Trees	March	8-8-8	1 cup/inch in caliper of tree
Medium Evergreen Trees	March June	13-13-13 10-10-10	1 cup/inch in caliper of tree
Shrubs & Massed Evergreens	March May July	13-13-13* 10-10-10* 10-10-10*	1/2 cup/ foot in height of scrub
		*Granulated Fertilizer	
Groundcover	April thoroughly water after application	13-13-13	10 lbs./ 1000 sf
Lawn Areas	March(early) June (early) September (early)	10-10-10	50 lbs./ 2500 sf or 800 lbs./acre

PART 3 – EXECUTION

3.1 MAINTENANCE PROCEDURE

A. Planted Trees:

1. Watering without Irrigation: When a drought (no rain for 2 or 3 weeks during summer months) occurs, it will be necessary to soak the tree(s). Check all trees and plants weekly, for dryness, by removing the straw from their bases and sampling the soil approximately twelve to fifteen inches (12" –15") deep. If no moisture is present, water each tree until the ground is saturated to the base of the tree rootball or a minimum of thirty-inch (30") depth. Watering Agent: Apply watering agent when the soil has become hardened beyond normal absorption rates, apply per manufacturer's recommendations.
2. Mulch: Maintain a layer of good heavy mulch which is three (3) inches in depth around all trees and shrubs in order to preserve moisture as specified.
3. Fertilizing: All planted trees shall be deep-root fed herein. Feed by boring a one and one-half inch (1-1/2") diameter hole to a depth of twelve to fifteen inches (12' – 15") and at the rate of eight to ten (8" - 10") holes per tree. Use two (2) pounds of material a year per inch in caliper of tree measured six (6) inches off the ground. Backfill all holes and repair any damage resulting from fertilizing operations.

4. Abnormal Conditions: Each tree is to be inspected each week for abnormal conditions such as insects, borers, web worms, red spiders, Japanese beetles, etc. Any abnormal conditions are to be treated immediately following recognized horticultural procedures.
5. Sucker Growth: Remove all sucker growth three (3) times a year. Sucker growth is defined as the shoots that sprout out around the base of a tree trunk.
6. Dead Wood: Remove and/or prune all dead branches a minimum of two (2) times per year. Treat all wounds and cuts with an asphaltic tree wound paint.
7. Insect Control: Apply insecticides as necessary in order to effectively control borers, aphids, mealy bugs, mites, tent worms, etc. Follow manufacturer's recommendations.
   NOTE: All chemicals are to be used in strict accordance with the federal, state, and county directives on environmental control. Chemicals must have an EPA approval number.
8. Leaning Trees: Straighten any leaning trees by pulling them to an upright position and installing a new guy wire and/or stake. If the tree cannot be successfully straightened by pulling over, then the Contractor shall dig around the rootball and straighten. To insure the tree is not damaged in the straightening process, a rubber hose should be used to protect the tree from being cut.
9. Pruning: Prune and/or thin trees and tree forms as directed by Owner or designated representative a minimum of two (2) times a year (once before spring and once during mid-summer) to adequately maintain an attractive shape and fullness with respect to the intended character of the planting.
10. Tree Wrapping: Tree wrapping is to be maintained for a period of one (1) year on newly planted material. At the end of this one (1) year period, tree wrap material is to be removed. If insects and borers are found, all trees on the site, which are subject to infestation are to be sprayed with an appropriate pesticide.
11. Tree Saucers: Tree Saucers are to be maintained per details noted in Construction Documents.
12. Water Removal from Tree Wells: The Landscape Maintenance Contractor is responsible for checking trees for standing water by inspecting the PVC pipe that extends vertically into the tree pit. If standing water is present, pump until all standing water has been removed.

B. Shrubs and Groundcovers:
1. Pruning: Prune and/or thin as directed by the Owner or his designated representative a minimum of two (2) times per year to adequately maintain an attractive shape and fullness with respect to the intended character of the plants. Consider specific plant characteristics (e.g., setting of flower buds) to determine specific pruning times.
2. Mulching: All shrub, tree beds and groundcover areas are to be continuously maintained with a clean, freshly mulched appearance using the mulch originally specified. Areas to receive "mulch only" are defined on the Landscape Development Plan. These areas and all other shrub beds are to be kept free of weeds at all times.
3. Fertilizer: Fertilize all shrubs two times a year with a 21-4-20 I sobutyliden diurea (IBDU) 75% WIN fertilizer or an approved substitute by spreading fertilizer around the base of the plant and working it into the soil by hand. (Use 1/2 cup per foot spread of shrub). See Fertilization Schedule and Details.
4. Insecticides: Inspect shrubs for insects, grubs, mites, etc. a minimum of every two (2) weeks. Apply insecticides and pesticides as per manufacturer's recommendations to effectively control insect infestation.
5. Edging: Edge and trim shrub, groundcover, and tree bed areas such that a clean and manicured appearance is exhibited at all times.
6. Watering: During summer months, if rain does not occur sufficiently to keep all shrubs moist, water thoroughly by soaking each plant. This is particularly important during the first year after planting. During unseasonably dry conditions plants are to be thoroughly watered a minimum of once a week.
7. Policing: Remove all debris such as paper, broken limbs, bottles, cans, etc., during the routine maintenance of the site.

C. Lawn Maintenance:

1. Mowing: All lawn areas shall be mowed to the height specified below. Use rotary type mowers designed for commercial use where possible. Use small mowers for difficult or tight areas where commercial mowers cannot maneuver. Entire extent of lawn area is to be mowed in one operation.
2. Mowing Height and Frequency: Mow all lawn areas to a two and one-half (2-1/2) inch to three (3) inch height. Perform mowing operations as necessary to keep lawn areas within the specified height range. This shall occur a minimum of one (1) time per week during growing season.
3. Edging: Neatly edge and trim around all plant beds, curbs, walks, streets, trees, plants and building areas. Use edgers or weedeaters with monofilament line for edging. Planting bed shapes and configurations are to be maintained as they were installed. Maintain a clean trenched edge between grass and mulch areas. Care should be taken to avoid injury to tree trunks or plant materials during edging operations. All edging operations are to be performed at each maintenance visit.
4. Clippings: All clippings are to be collected and removed from the site. Clippings can be collected during the mowing process or raked after mowing.
5. Foreign Matter: Remove all extraneous leaves, weeds, trash, limbs and debris from lawn and plant beds as necessary to constantly maintain a completely clean appearance. This shall occur at each maintenance visit.
6. Aerate entire lawn area with mechanical aerator in spring and in early fall.
7. Fertilize entire lawn area using a granulated grade of fertilizer, such as 21-1-10 IBDU at the rate and frequency as specified in the Fertilizer Summary.
8. Obtain soil samples from all areas of the site for analysis. Follow fertilizing and liming recommendations from testing laboratory.
9. Weed Control: Use chemical and mechanical means to prevent weeds and/or undesirable grasses from encroaching upon lawns and mulched areas. Maintain a valid Texas pesticide applicator and operator's license and use chemicals in strict accordance with federal, state, county, and city directives on environmental control. Chemicals must have an EPA approval number.
10. Re-Seeding: Re-seed lawn areas as necessary to maintain a thick, green healthy and attractive appearance at all times. Sparsely grassed areas or areas of damaged lawn areas must immediately be re-scarified and re-seeded (conditions permitting) to re-establish a vigorous and lush appearance.
11. Watering: The Contractor is advised that the automatic irrigation system is to be used as a supplement to rainfall. The Contractor is responsible for carefully observing the water requirements for all landscaped areas and either using the irrigation system or other means of watering to maintain healthy, vigorous plant material. It is also the responsibility of the contractor to maintain the irrigation system, including replacement of damaged heads, lines, etc., on a material cost basis, as well as winterization of the system.

D. Miscellaneous: Building foreground areas, parking lots, sidewalks, all roadways and grounds visible from roadways shall be maintained as follows:

1. The entire site: During each maintenance visit remove unsightly litter, broken limbs, debris, etc.
2. All debris and litter collected during the normal operation shall be removed from the site by the Grounds Maintenance Contractor.
3. All storm drains, ditches, culverts, etc., within the limits of work must be kept free of litter which could obstruct proper water flow.

E. Safety and Chemical Use:

1. All materials and performance of work must meet all Federal Health and safety laws currently in effect. All chemicals to be used in performance of this Contract must carry an EPA approval number.
2. Contractor must provide and require the wearing of protective clothing, mask, eye protection, etc., during any operation as required or directed by applicable laws, regulations or ordinances, and/or directions of manufacturers of material or equipment.

3. All equipment must be properly maintained and is subject to inspection by the Owner. Remove from premises any equipment deemed inoperable or unsafe. All equipment must meet American Standard Safety Specification and OSHA requirements.
4. The Contractor shall adequately protect workers, adjacent property, and the public, and take all necessary precautions for the safety of his employees on the job and of the persons employed at the facility being maintained.

3.2 INSPECTIONS

A. The Owner, along with the designated representative, will make periodic reviews of the entire site related to visual aspects and the Contractor's performance. The Contractor will, on the sole judgment of the designated representative, make repairs and adjustments as directed by the representative during the site visit.

3.3 CLEANUP AND PROTECTION

A. During Ground Maintenance work, keep pavements clean and work area in an orderly condition.

B. Protect all plant material and other items (paving, walkways, buildings, etc.) from damage due to maintenance operations. Treat, repair, or replace items damaged by Grounds Maintenance Contractor as directed.

END OF MAINTENANCE

SECTION - CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Chain-link fences.
2. Gates.

B. Related Sections:
1. Section 501 "STRUCTURAL PORTLAND CEMENT CONCRETE" Section 503 "STEEL REINFORCEMENT", and Section 505 "STRUCTURE FOUNDATION" from the City of Huntsville Engineering of Public Works Department Standard Specifications 1991 Edition as modified in the Supplement to General Requirements.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Chain-link fence and gate framework shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to ASCE/SEI 7:

a. Fence Height: 7'.
b. Material Group: IA, ASTM F 1043, Schedule 40 steel pipe.

B. Lightning Protection System: Maximum grounding-resistance value of 25 ohms under normal dry conditions.

C. Base bid shall have all fencing fabric, frames, fitting, and accessories as zinc coated (galvanized).

D. Fencing option shall be for black vinyl coated fence fabric, frames, fittings, and accessories.

1.4 SUBMITTALS

Prior to installation, submit six (6) copies of the following to the Owner for approval:

1. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for chain-link fences and gates.

a. Fence and gate posts, rails, and fittings.
b. Chain-link fabric, reinforcements, and attachments.
c. Accessories: Barbed wire andBarbed tape.
d. Gates and hardware.

2. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show accessories, hardware, gate operation, and operational clearances.
3. Samples for Initial Selection: For components with factory-applied color finishes.
4. Product Certificates: For each type of chain-link fence and gate, from manufacturer.
5. Product Test Reports: For framing strength according to ASTM F 1043.
6. Field quality-control reports.
7. Warranty

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: For testing fence grounding. Member Company of NETA or an NRTL.

1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.

B. Electrical Components, Devices, and Accessories shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Pre-installation Conference: Conduct conference at Project site.

1. Inspect and discuss electrical roughing-in, equipment bases, and other preparatory work specified elsewhere.
2. Review required testing, inspecting, and certifying procedures.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

B. Clearing and grubbing will be required by fencing contractor to install the proposed fence.

C. Coordinate with mass grading contractor prior to placement since grading will occur along the proposed fence alignment.

D. Security of the arsenal is paramount during the installation of this new security fence. The contactor shall work closely with the Owner, Redstone Arsenal, and the Owner's onsite representative to assure that no breaches in security occur while installing the new fence.

E. Staking and layout for proposed fence will be by the Owner (one time only)

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in whichmanufacturer agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Faulty operation of gate operators and controls.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CHAIN-LINK FENCE FABRIC

A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist. Comply with (CLFMI) Chain Link Fence Manufacture Institute Product Manual and with requirements indicated below:

1. Fabric Height: 7', match existing.

2. Steel Wire Fabric: ASTM A 392, Class 1, Zinc-coated steel wire with minimum coating weight of 1.2 oz/sq. ft. of coated surface, fabric shall be fabricated of 9 gauge wire woven in 2 inch mesh. Option vinyl fabric shall be fused and bonded as per ASTM F-668-93A Section 1.2.3 Class 2b.
3. Selvage: Fabric shall be twisted and barbed on the top selvage and knuckled on the bottom selvage.

2.2 FENCE FRAMING

A. Posts and Rails: Comply with ASTM F 1043 for framing, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F 1043 or ASTM F 1083 based on the following:

1. Fence Height: 84 inches.

a. Line Post: 2.375 inches in diameter.
b. End, Corner and Pull Post: 3.0 inches.

2. Horizontal Framework Members: Intermediate, top and bottom rails complying with ASTM F 1043.

a. Top Rail: 1.625 inches in diameter.

3. Brace Rails: Comply with ASTM F 1043.
4. Metallic Coating for Steel Framing:

a. Type A, consisting of not less than minimum 2.0-oz./sq. ft. average zinc coating per ASTM A 123/A 123M or 4.0-oz./sq. ft. zinc coating per ASTM A 653/A 653M.

b. Option vinyl coating on frame work shall be SS-40 heavy mil coated.

2.3 TENSION WIRE

A. Metallic-Coated Steel Wire: 0.177-inch- diameter, marcelled tension wire complying with ASTM A 817 and ASTM A 824, with the following metallic coating:

1. Type I, aluminum coated (aluminized).
2. Type II, zinc coated (galvanized) by hot-dip process, with the following minimum coating weight:

   a. Class 4: Not less than 1.2 oz./sq. ft. of uncoated wire surface.

2.4 FITTINGS

A. General: Comply with ASTM F 626.

B. Post Caps: Provide for each post.

1. Provide line post caps with loop to receive tension wire or top rail.

C. Rail and Brace Ends: For each gate, corner, pull, and end post.

D. Rail Fittings: Provide the following:

1. Top Rail Sleeves: Pressed-steel or round-steel tubing not less than 6 inches long.
2. Rail Clamps: Line and corner boulevard clamps for connecting intermediate and bottom rails in the fence line-to-line posts.

E. Tension and Brace Bands: Pressed steel.

F. Tension Bars: Steel, length not less than 2 inches shorter than full height of chain-link fabric. Provide one bar for each gate and end post, and two for each corner and pull post, unless fabric is integrally woven into post.

G. Truss Rod Assemblies: Steel, hot-dip galvanized after threading, Mill-finished aluminum rod and turnbuckle or other means of adjustment.

H. Barbed Wire Arms: 12 gage pressed steel with clips, slots, or other means for attaching strands of barbed wire: for each post unless otherwise indicated, and as follows:

1. Provide line posts with arms that accommodate top rail or tension wire.
2. Provide corner arms at fence corner posts, unless extended posts are indicated.
3. Type I, single slanted arm.
4. Type II, single vertical arm.
5. Type III, V-shaped arm.

6. Type IV, A-shaped arm.

I. Tie Wires, Clips, and Fasteners: According to ASTM F 626.

1. Standard Round Wire Ties: For attaching chain-link fabric to posts, rails, and frames, complying with the following:

a. Fabric band 14" on center No. 6 gage steel wire or 0.144 aluminum wire.

J. Finish:

1. Metallic Coating for Pressed Steel: Not less than 1.2 oz. /sq. ft. zinc.

2. Option vinyl coating on fittings and accessories shall be fused and bonded PVC.

2.5 BARBED WIRE

A. Steel Barbed Wire: Comply with ASTM A 121, for three-strand barbed wire, 0.099-inch-diameter line wire with 0.080-inch- diameter, four-point round barbs spaced not more than 5 inches o.c.

1. Zinc Coating: Type Z, Class 3.
2. 12.5 gauge wire with 14 gauge barbs.

2.6 FENCE GROUNDING

A. Conductors: No. 2 – 7 strand copper ground conductor.

1. Material above Finished Grade: Copper.
2. Material on or below Finished Grade: Copper.
3. Bonding Jumpers: Braided copper tape, 1 inch wide, woven of No. 30 AWG bare copper wire, terminated with copper ferrules.

B. Connectors and Grounding Rods: Comply with UL 467.

1. Connectors for Below-Grade Use: Exothermic welded type.
2. Grounding Rods: Copper-clad steel, 5/8 inches diameter by 120 inches.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, and other conditions affecting performance of the Work.

1. Do not begin installation before final grading is completed.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts by Owner (one time only). Do not exceed intervals of 500 feet or line of sight between stakes. Fence contractor to verify locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments for own scope.

3.3 INSTALLATION, GENERAL

A. Install chain-link fencing to comply with ASTM F 567 and details provided.

3.4 CHAIN-LINK FENCE INSTALLATION

A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacing indicated, in firm, undisturbed soil.

B. Post Setting: Set posts in concrete at indicated spacing into holes in firm, undisturbed soil.

1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.

   a. Exposed Concrete: Extend 2 inches above grade; shape and smooth to shed water.
   b. Posts Set into Concrete in Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with non-shrink, nonmetallic grout, anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.
   c. Posts Set into Voids in Concrete: Form or core drill holes not less than 5 inches deep and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with non-shrink, nonmetallic grout, anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.

C. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more or as indicated on the drawings.

D. Line Posts: Space line posts uniformly at 10 feet o.c. maximum.

E. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Diagonally brace terminal posts to adjacent line posts with truss rods and turnbuckles. Install braces at end and gate posts and at both sides of corner and pull posts.

1. Locate horizontal braces at mid-height of fabric 72 inches or higher, on fences with top rail and at two-third fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.

F. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Pull wire taut, without sags. Fasten fabric to tension wire with 0.120-inch diameter hog rings of same material and finish as fabric wire, spaced a maximum of 24 inches o.c. Install tension wire in locations indicated before stretching fabric. Provide horizontal tension wire at the following locations:

1. Extended along top and bottom of fence fabric. Install top tension wire through post cap loops. Install bottom tension wire within 6 inches of bottom of fabric and tie to each post with not less than same diameter and type of wire.
2. Extended along top of barbed wire arms, extended posts and top of fence fabric for supporting barbed tape.

G. Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.

H. Intermediate and Bottom Rails: Install and secure to posts with fittings.

I. Chain-Link Fabric: Apply fabric to outside of enclosing framework so as to protect the secure areas of the Arsenal. A maximum of 2" gap between the bottom of the fence fabric and the finished grade. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

J. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 12 inch intervals.

K. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.

1. Maximum Spacing: Tie fabric to line posts at 14 inch intervals and to rails and tension wires at 12 inch intervals.

L. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

M. Barbed Wire: Install barbed wire uniformly spaced, angled away from the security side of fence. Pull wire taut, install securely to extension arms, and secure to end post or terminal arms.

3.5 GATE INSTALLATION

A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-

resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.6 GROUNDING AND BONDING

A. Fence Grounding: Install at maximum intervals of 1000 feet except as follows:

1. Fences within 100 feet of Buildings, Structures, Walkways, and Roadways: Ground at maximum intervals of 750 feet.

   a. Gates and Other Fence Openings: Ground fence on each side of opening.

      1) Bond metal gates to gate posts.
      2) Bond across openings, with and without gates, except openings indicated as intentional fence discontinuities. Use No. 2 AWG wire and bury it at least 18 inches below finished grade.

B. Protection at Crossings of Overhead Electrical Power Lines: Ground fence at location of crossing and at a maximum distance of 150 feet on each side of crossing.

C. Grounding Method: At each grounding location, drive a grounding rod vertically until the top is 6 inchesbelow finished grade. Connect rod to fence with No. 2 – 7 strand copper ground conductor. Connect conductor to each fence component at the grounding location, including the following:

1. Make grounding connections to each barbed wire strand with wire-to-wire connectors designed for this purpose.
2. Make grounding connections to each barbed tape coil with connectors designed for this purpose.

D. Bonding Method for Gates: Connect bonding jumper between gate post and gate frame.

E. Connections: Make connections to minimize possibility of galvanic action or electrolysis. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
2. Make connections with clean, bare metal at points of contact.
3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

F. Bonding to Lightning Protection System: If fence terminates at lightning-protected building or structure, ground the fence and bond the fence grounding conductor to lightning protection down conductor or lightning protection grounding conductor complying with NFPA 780.

3.7 FIELD QUALITY CONTROL

A. Grounding-Resistance Testing: Engage a qualified testing agency to perform tests and inspections.

1. Grounding-Resistance Tests: Subject completed grounding system to a megger test at each grounding location. Measure grounding resistance no fewer than two full days after last trace of precipitation, without soil having been moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural grounding resistance. Perform tests by two-point method according to IEEE 81.
2. Excessive Grounding Resistance: If resistance to grounding exceeds specified value, notify Engineer promptly. Include recommendations for reducing grounding resistance and a proposal to accomplish recommended work.
3. Report: Prepare test reports certified by a testing agency of grounding resistance at each test location. Include observations of weather and other phenomena that may affect test results.Submit reports to owner upon completion. Reports required as part of required acceptance and substantial completion.

3.8 ADJUSTING

A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Lubricate hardwareand other moving parts.

3.9 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's personnel to adjust, operate, and maintain chain-link fences and gates.

END OF CHAIN LINK FENCES AND GATES

HUNTSVILLE

Shane Davis, P.E.
Director of
City Engineering

Tommy Battle
Mayor

REDSTONE GATEWAY EXTENSION, MARKET STREET AND OVERLOOK ROAD RELOCATION – PACKAGE 1F-2 WATER SYSTEMS AND PACKAGE 1F-3 PRIMARY COMMUNICATION/PRIMARY ELECTRICAL

Project No. 65-11-SP22
April 9, 2012

Addendum #1

The attached pre-bid meeting minutes, all addenda, and attachments for the above- referenced project will become part of the contract documents.

- Any bidder who designates a change on the outside of the envelope understands that any deletions or additions designated, bidder must further indicate the particular bid item relative to the deletion or addition, even if the deletion or addition references to deduct or add to the Total Base Bid.

E-VERIFY – NOTICE

The Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, *Code of Alabama (1975) § 31-13-1 through 31-13-30"* (also known as and hereinafter referred to as " the Alabama Immigration Act") is applicable to contracts with the City of Huntsville. As a condition for the award of a contract and as a term and condition of the contract with the City of Huntsville, in accordance with § 31-13-9 (a) of the Alabama Immigration Act, any business entity or employer that employs one or more employees shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien and shall attest to such by sworn affidavit signed before a notary.

Such business entity or employer shall provide a copy of such affidavit to the City of Huntsville as part of its bid or proposal for the contract along with a copy of the Memorandum of Understanding as documentation establishing that the business entity or employer is enrolled in the E-Verify program. The required affidavit forms for the contractor and for subcontractors are included in the project specifications.

During the performance of the contract, such business entity or employer shall participate in the E-Verify program and shall verify every employee that is required to be verified according to the applicable federal rules and regulations. The business entity or employer shall assure that these requirements are required of every subcontractor in accordance with §31-13-9(c) and shall maintain records that are available upon request by the City, state authorities or law enforcement to verify compliance with the requirements of the Alabama Immigration Act. Failure to comply with these requirements may result in breach of contract, termination of the contract or subcontract, and possibly suspension or revocation of business licenses and permits in accordance with §31-13-9 (e) (1) & (2) or in the case of a subcontractor, in accordance with §31-13- 9 (f) (1) & (2).

All addenda must be acknowledged either on the outside of the bid envelope or on page 2 of your bid proposal.

Attachment: Pre-Bid Minutes

END OF ADDENDUM #1

MANDATORY PRE-BID MEETING

DATE: Tuesday, April 3, 2012

REDSTONE GATEWAY: **Package 1F-2 Water System and 1F-3 Primary Communication/Primary Electrical – Redstone Gateway Extension, Market Street, and Overlook Road Extension**

PROJECT # 65-11-SP22

OWNER: City Of Huntsville
PROJECT MANGER: Brasfield & Gorrie L.L.C.
PROJECT ENGINEER: LBYD Civil and Structural Engineers
INSPECTIONS: Johnson and Associates
SURVEYOR: Garver
GEOTECHNICAL ENGINEER: Building and Earth Sciences

1. Introduction of all persons present, their roles, chain of command, importance of submittals, etc. (PM)
   HANDOUTS:
   a. Phasing Plan
   b. Redstone Security Procedures
   c. Project Directory

   *** *If you have questions regarding the bid process, please write them down and hold them until the end of this pre-bid meeting (#16 on agenda). If you have specific questions related to the project scope, drawings or specs, they need to be submitted in writing to B&G and will be answered and distributed to all bidders as an addendum.* ***

2. Project Engineer to give a description of work specific to this bid package. Also include description of phase 1 packages (including work "by others" that will have to be coordinated with – List of work "by others" in instructions to bidders) ADEM issues and brief description of future phase 2 and 3. (PE)

3. Project Manager to discuss Schedule of Operations, erosion control plan, disposal of debris from clearing and grubbing, undercutting and replacement, importance of soil management, milestone dates and LD's, importance for control of concrete and asphalt temperature during hot/cold weather, safety, sinkhole remediation, other trade scope that could impact your work, etc. (PM)

4. The following is a list of items (but no limited to) that must be submitted per the bid document requirements that must be submitted by the prime contractor post award: (PM)
   - Balanced Schedule of Values *(within 2 business days of award)*
   - Site Construction Traffic Control Plan *(Prior to Construction Start)*
   - Federal tax form to City *(At time of contract award)*

- Project Schedule that includes coordination with other packages and future work, time to prepare and approve shop drawings, fabricate and deliver materials and install / complete scope *(within 10 calendar days of award)*
- Payment and Performance bond *(15 Days after acceptance of proposal)*
- Shop Drawings (*Prior to Installation / Placement*)
- Weekly Safety meeting minutes and associated sign in sheets
- Any results by third party safety inspector
- Lien waivers with pay requests
- Seismic surveys / Pre-Blast surveys (*Prior to Drilling and Blasting if required*)
- Red-Line as-built drawings *(at completion of associated scope prior to owner acceptance)*

(In Addition, YOUR first pay estimate will NOT BE PROCESSED UNTIL ALL REQUIRED DOCUMENTS HAVE BEEN RECEIVED AND APPROVED).

5. Discuss all Permits, testing, surveying (Dig Permit) (PM)

6. Discuss Bid Form details (Attachment "B" + appropriate Proposal Form) (PM)

7. Contractor is required to submit pricing in person per requirements set forth in bid documents. Failure to do so shall be cause for rejection of bid. A "balanced" detailed Schedule of values including quantities and unit prices that total up to bid Lump Sum to be submitted within two (2) Business Days as basis to establish additive and deductive changes in scope for this project. (PM)

8. Utility Project Notification – LBYD to give a description of utility requirements/conflicts. Attached: names and phone numbers of utility contractors (Pre-Bid attachment "c") for conflict assistance. Contractor is responsible for locating all utilities. (PE)

9. Discuss Submittal of Shop Drawings, as-built requirements, working drawings, material submittals, job-mix formulas in accordance with the time limits in the contract. (PE)

   The approval of shop drawings by the Project Manager will cover only the features of the design and in no case shall this approval be considered to cover error or omissions in shop details or a check of any dimensions. The Contractor shall be responsible for the accuracy of the shop drawings, the fabrication of materials and the fit of all connections; and he shall bear the cost of all extra work caused by errors in shop drawings or in fabrication, inaccurate workmanship, misfits of connections or for any changes in fabrication necessary. No work shall be done on the material before the shop drawings have been approved. Any material that the Contractor orders prior to the approval shall be at the Contractor's risk.

   <u>Substitutions or changes whether indicated or implied on shop drawings will not be considered as changes regardless of the Engineer's approval of shop drawings</u>

unless the change has been previously submitted and approved as a change order per the requirements for changes in the contract.

After a shop drawing has been approved, no changes shall be made unless directed in writing to the Owner and acceptance by the Owner of said changes. Any acceptance of change by the Owner does not constitute a change to the contract unless that change has been approved and directed in writing per change order. Compensation for preparing and furnishing all shop and working drawings shall be included in the contract unit prices for the various items of work.

10. Project Engineer & Project Manager to discuss plans and specs:
    a. A review of the plans should be made with emphasis placed on unusual construction features and special drawings (PE)
    b. Specifications should be discussed with emphasis on time charges, extra work, materials, etc. (PM)
    c. State of Alabama classification of MU and HS for this project, (PM)

11. Project Manager to discuss Bid Process and Special Provisions (Instructions to Bidders). (PM)
    1. Each item (attachments) of the contract should be read out and any questions concerning the method of measurement or payment discussed.
    2. Discuss Milestone and Calendar days to complete project. (ask if there any concern that contract cannot be completed within contract time specified.)
    3. Introduction and explanation of any revisions to Supplement to General Requirements

12. Sequence of Construction and Traffic Control with the contractor made aware of his/her responsibility to handle traffic safely through the work zone. The method of payment for traffic control shall be discussed and clearly understood. (PM)

13. For any trench cuts within existing roadways, Contractor is required to patch area with asphalt mix within the same day, unless otherwise specified by the Engineer. (Dense graded Base is no longer an acceptable means of traffic control within existing roadway cuts.) (PM)

14. Discuss Redstone Arsenal Security Information for any work "inside" the Redstone Arsenal Security Fence. Security Badges to be coordinated through Brasfield and Gorrie and contractors should allow a minimum of 2 weeks for approval.

15. Successful contractor will be required to sign the following statement, included as part of the contract: (PM)

E-VERIFY CONDITIONS:

As a condition of the contract, pursuant to 8 U.S.C.§1324a, Contractor, must certify that it has not knowingly employed, recruited, referred for a fee, or contracted with an unauthorized alien, with respect to employment in the United States. Further, Contractor certifies that it has enrolled in the designated

employment eligibility verification system and will maintain enrollment throughout the term of this contract.

16. Any Prime Contractors should be given the opportunity to ask questions or discuss items with which they are concerned. (PM)

17. All questions need to be sent in writing to Matt Kelley (COH Project Manager) at mkelley@brasfieldgorrie.com. All questions / clarifications will be answered by an addendum. The pre-bid notes and all addenda shall become a part of the contract documents.

18. Last day for questions concerning this project before the bid will be Monday, April 9, 2012 at 3:00 p.m. and the Final Addendum will be issued no later than Tuesday, April 10, 2012 at 3:00 p.m.

19. The Public Bid Opening will be held on Thursday April 12, 2012 at 3:00 p.m. in the First Floor Conference at the City of Huntsville Public Services Building, 320 Fountain Circle, Huntsville, AL 35801.

QUESTIONS DURING PRE-BID MEETING:

1. Q. Is the overhead electrical and communication relocation work part of this bid or scope for 1F-3 Primary Communication and Primary Electrical?
   A. No, per page 6 of the Instructions to Bidders Installation of Redstone Arsenal power and I3MP duct bank relocations identified on sheets C11.0 to C11.4 are by the Package 1F-1 Contractor.

2. Q. Is the Redstone Arsenal water line relocation part of this bid or scope for 1F-2 Water Systems?
   A. No, per page 6 of the Instructions to Bidders Installation of Redstone Arsenal water line relocations identified on sheets C11.0 to C11.4 are by the Package 1F-1 Contractor.

3. Q. What does Huntsville Utilities provide under the ATC for Package 1F-3 Primary Communication and Primary Electrical?
   A. Huntsville Utilities ATC cost covers the following items:
   - S3 Cabinets and Bases
   - 750 Cabinets and Bases
   - Single Phase Transformers and Bases
   - Switch Cabinet Components and Bases
   - Primary Cable & Installation
   - Street Lights auger foundations, poles, and LED fixtures

4. Q. What does the 1F-3 Primary Communication and Primary Electrical Contactor have to provide for the Street Lighting?
   A. The Package 1F-3 Contractor must provide all conduit, wiring, pull boxes, distribution equipment, electrical panels, and meter bases as required for a complete and operational system.

5. Q. What does the 1F-3 Primary Communication and Primary Electrical Contactor have to provide for the Communications duct bank?
   A. The Package 1F-3 Contractor must furnish and install all conduit, manholes and pull boxes for the communications duct bank.

6. Q. Is this a Davis/Bacon project?
   A. No.

7. Q. Page 15 of the Supplement to General Requirements says the Project Manager is responsible for the final field surveying and record drawings what will the Prime Contractors be responsible for?
   A. The Project Manager's surveyor, Garver, LLC, has established 12 control points and bench marks around the project. The Package 1F-2 and 1F-3 Contractors are responsible for the layout of their own scope of work utilizing the 12 control points. The Package 1F-2 and 1F-3 Contractors will responsible for submitting redline as-built drawings to the Project Manager upon completion. The Project Manager will be responsible for incorporating the Contractor's redline drawings into the final set of digital as-built drawings.

8. Q. Is the Huntsville Utilities ATC material listing for the water system available?
   A. Yes the material list for the Huntsville Utilities ATC is in the specifications under Huntsville Utilities Water Systems ATC Material List.

9. Q. Can 24" casing required for the water system be installed in an open trench or does it have to be bored?
   A. Yes the 24" casing can be installed in an open trench, boring is not required.

10. Q. Will the water line installed under the roadways or within 5' of the curb have to be backfilled with stone per City of Huntsville Standards.?
    A. Yes any water line under the roadway and 5' behind the curb and gutter must be backfilled with stone.

11. Q. Is the electrical conduit shown further than 5' from the back of the curb?
    A. Yes the power conduit is shown further than 5' from the back of curb except under roadway crossing where stone backfill will be required.

12. Q. Will retainage be held on the ATC cost paid to Huntsville Utilities?
    A. Yes, however the successful contractor can submit their payment request for the ATC as soon as possible to help expedite that process.

QUESTIONS SUBMITTED AFTER THE PRE-BID MEETING:

1. Q. Can the communications duct bank be in the same trench as the Electric duct bank with separation between them both?
   A. No.

2. Q. Does the Package 1F-3 supply the auger bases for the street light poles?
   A. No the steel auger pole bases are furnished by Huntsville Utilities.

HUNTSVILLE

Shane Davis, P.E.
Director of
City Engineering

Tommy Battle
Mayor

REDSTONE GATEWAY EXTENSION, MARKET STREET AND OVERLOOK ROAD RELOCATION – PACKAGE 1F-2 WATER SYSTEMS AND PACKAGE 1F-3 PRIMARY COMMUNICATION/PRIMARY ELECTRICAL

Project No. 65-11-SP22
April 10, 2012

Addendum #2

All addenda and attachments for the above- referenced project will become part of the contract documents.

Questions from Contractors:

Questions/answers are listed on attachment to this addenda.

PLEASE NOTE: The **revised** copy of the bid form for Package 1F-3 – Primary Communication and Primary Electrical Package is attached to this addenda. All bids must be submitted on this revised bid form.

All addenda must be acknowledged either on the outside of the bid envelope or on the third page of your bid proposal known as Attachment "B".

Attachments: Questions/Answers
Revised Bid Form

END OF ADDENDUM #2

REDSTONE GATEWAY: **Package 1F-2 Water System and 1F-3 Primary Communication/Primary Electrical – Redstone Gateway Extension, Market Street, and Overlook Road Extension**

PROJECT # 65-11-SP22

DATE: 4/10/12

CONTRACTOR QUESTIONS:

1. Q. Please verify water installation work shown on sheet C-12?
   A. Contractor shall install all work shown except for the existing 12" D.I. Main shown along Rideout Road.

2. Q. Please verify Primary Communication & Electrical – work shown on sheets C11.5, C11.6, C12.1, E01, and E1.0?
   A. Contractor shall install all work shown on sheets C11.5, C11.6, C12.1, E0.1, and E1.0-R1.

3. Q. Please verify RSA Water shown is not part of this work?
   A. The installation of the RSA Water shown sheets C11.0, C11.2-R1, and C11.3-R1is not part of this work.

4. Q. Will all areas of proposed utility work within rough grading area of Reed Contracting be at subgrade elevation?
   A. It is possible that all areas will be at subgrade elevation however Contractors should assume the maximum depth excavation at cut areas as required.

5. Q. Package 1F-2 indicates to install valve pits/detector check valves/backflow preventers and vaults as shown on the drawings. None are shown so none are required. Correct?
   A. If none are shown then that is correct.

6. Q. Are concrete valve pads required? If so, can precast concrete donuts be used?
   A. Concrete valve pads are required. Precast concrete donuts can be used.

7. Q. Please clarify what any & all means of "off-site" and "on-site" pedestrian and traffic control refers to?
   A. The contractor will responsible for any traffic control associated with their scope of work to safely protect the public.

8. Q. Please confirm any and all overhead electrical/communication line work is not part of this scope of work.
   A. Per page 6 of the Instructions to Bidders Installation of Redstone Arsenal power identified on sheets C11.0 to C11.4 is by the Package 1F-1 Contractor.

9. Q. The proposal form for Package 1F-3 breakdown notes traffic signalization work. No signalization work is noted in the scope of work for Package 1F-3. What is this referring?
   A. No traffic signalization work is required and this has been removed from the attached bid form.

10. Please clarify what materials are furnished by HU Electric – Scope of work for Package 1F-3 indicates the requirements for pole bases. Street Lighting info indicates Owner provided auger foundations, poles & LED fixtures, but this material is not noted in material by ATC fee. Kindly provide list of Owner/HU furnished material?
    A. Huntsville Utilities ATC cost covers the following items:
    - S3 Cabinets and Bases
    - 750 Cabinets and Bases
    - Single Phase Transformers and Bases
    - Switch Cabinet Components and Bases
    - Primary Cable & Installation
    - Street Lighting auger foundations, poles, and LED fixtures

11. Q. Electrical ATC fee indicates single phase transformer and bases. Lighting plans indicates detail for meter center/panel off of transformer to power lights but no transformer pad is shown on utility conduit drawing. Is this required and if so, provide a location?
    A. Transformer locations are shown on plans. Pad is to be provided per Huntsville Utilities Specifications. See Note 6 on Sheet E0.1.

12. Q. We assume it is acceptable for 5" and 6" conduit to be placed in a joint trench. Please verify.
    A. It is acceptable per the HU Electrical Specifications but only with the approval of the inspector.

13. Q. Pre-Bid notes the requirement for seismic surveys/pre-blast surveys prior to drilling/blasting. Is anything required if rock excavation is done with a hydraulic breaker?
    A. No.

14. Q. Please confirm the only concrete encasement of communication duct banks is under the pavement area. How far past the curb line must encasement extend?
    A. That is correct and concrete must extend 5' past the back of curb.

15. Q. Is any concrete encasement of electrical conduit required?
    A. Refer to Huntsville Utilities Electrical Specifications.

16. Q. The communication duct bank detail indicates #78 gravel backfill in the hatched area. Outside of paved areas where concrete encasement is not required, what is required for backfill around the duct bank below the hatched area?
    A. Structural fill backfill.

17. Q. What is the overall minimum duct bank width?
    A. Refer to notes on Drawing C11.6.

18. Q. On the primary conduit plan, service and stubs are shown out of the cabinets/switch gear. How far do these extend from fixture. It appears as though one extends across the street at one location. Is this correct?
    A. Service and stubs to be extended beyond the limits of improvements. Yes, the drawing is correct.

19. Q. Please confirm the minimum cover/depth requirements for the Water, Electric primary Conduit, and Site Lighting Conduit?
    A. Thirty inches of cover is the required minimum depth for proposed water main. See Huntsville Utilities Water and Electrical Specifications and design notes for minimum cover requirements. Refer to Note 6 sheet E0.1 "All work performed shall be as specified in the Huntsville Utilities General Specifications for Installation of Underground Utilities. REV. Oct 2008." This is available on the Huntsville Utilities web sites for Electric primary and Site Lighting Conduit.

20. Q. Kindly provide a list of documents required to be submitted with Bid Proposal
    A. Please include 3 originals of the Bid Proposal and attachments A thru I.

21. Q. Fence specification – Any fencing work associated with Packages 1F-2/1F-3?
    A. No.

22. Q. Please clarify on the water casing required. Are we installing a main thru this casing? No casing spacers/end seals included in water ATC materials. Are these required and if so, are we responsible for providing?
    A. The casing pipe is being installed for a future tie-in and will not require a main through it at the time of installation.

23. Q. Kindly provide a material specification for the duct bank markers required?
    A. PVC tape marker.

24. On Sheet C11.5 Tie into Package 1B work: North end connects to existing manhole. Are conduits stubbed from manhole or manhole cored or knock out panel to tie in new conduits?
    A. Knock panels in manholes to tie-in the new conduit.

25. Q. Sheet C11.5 Plan calls out 6 manholes. Are these the 6' x 8' x 7'? There is a manhole shown at the east end but not called out. What size is this? Are any 4' x 4' x 4' handhole/pull boxes required? Keynote 1 refers to detail on DWG C11.6 typical. What exactly does this require at the end of stubs? Cap off conduit?
    A. This is called out on Drawing C11.5.

26. Q. Sheet C11.5 Note 4 – Does this pertain to our work? Are we required to install pull strings in communication conduits?
    A. Yes.

27. Q. Sheet C11.6 Is Note 9 applicable to the duct bank installation? Do manholes require waterproofing on the outside prior to backfill? If so, what type material?
    A. Note 9 applies; no waterproofing is required.

28. Q. Kindly confirm the existing 12" Ductile Iron Main is behind the curb along Rideout Road where the fire hydrant/12" main tie in is required.
    A. Yes the 12" Ductile Iron Main is behind the curb.

29. Q. Reference sheet E0.1what does Note #7refer to?
    A. Note 7 is left over from phase 1B. Please disregard for this phase.

30. Q. On sheet E1.0-R1 please clarify the tie-in point of phase 1B/1F @ North side? There is no description for Keynote 4 please verify?
    A. Tie in points are noted by Panel board notation. RP-2 and RP-3 Note 4 is to read "Coordinate location of pull box with sign luminaires".

31. Q. At the pre-bid, it was discussed that the water main was within 5' of the back of curb thus requiring gravel backfill. Sheet C14.4-R1 shows the water main ± 12' behind the curb. Which is correct? if 12' behind curb, portions under sidewalk – will gravel backfill be required?
    A. The majority of the water line is 12' behind the curb, however any water line under the roadway, crossings, and 5' behind the curb and gutter must be backfilled with stone.

32. Q. Drawings indicate future drives along Market Street – N.I.C. – Will water main crossings @ future drives require gravel backfill?
    A. Yes.

33. Q. Can excess soils for the utility excavating be spoiled on site? If so, where and will any restoration (i.e. grading, seeding, etc) of the spoil pile be required? Can rock excavation be spoiled on site?
    A. No.

33. Q. On Package 1F-3 Bid Form please define Item 3 "Traffic Signalization"?
    A. No traffic signalization work is required and this has been removed from the attached bid form.

34. Q. On Sheet C11.1-R1 is the communication duct bank relocation & overhead pole work (along Rideout Rd) part of this contract?
    A. Per page 6 of the Instructions to Bidders Installation of Redstone Arsenal power and I3MP duct bank relocations identified on sheets C11.0 to C11.4 are by the Package 1F-1 Contractor.

35. Q. On Sheet(s) C11.2-R1 & C11.3-R1what are the limits of work for this bid package as it relates to the overhead line removal & installation?
    A. Per page 6 of the Instructions to Bidders Installation of Redstone Arsenal power and I3MP duct bank relocations identified on sheets C11.0 to C11.4 are by the Package 1F-1 Contractor.

36. Q. Does Huntsville Utilities pull the wire for primary power in the 5" and 6" conduit?
    A. Yes.

37. Q. Do we furnish and place the street light wires in the 2" conduit and make hot?
    A. Yes.

38. Q. Per Q&A #12 on Addendum #1 retainage will be held on the ATC costs for water and power. Can this be changed to no retainage held on the ATC cost?
    A. Yes the City of Huntsville has agreed not to hold retainage on the ATC cost for Package F.

39. Q. Does Addendum #2 include any revised drawings?
    A. Yes see Addendum #2 drawing Sheet C11.3 which extended Redstone Gateway Boulevard.

ATTACHMENT "B" to PROPOSAL
PROPOSAL FORM
PACKAGE 1F - 3 Primary Communication and Primary Electrical Package
REDSTONE GATEWAY
COH PROJECT NO. 65-11-SP22

ITEM	DESCRIPTION	QTY.	UNIT	AMOUNT	AMOUNT DESCRIPTION *(MUST BE WRITTEN IN "WORDS" AND MATCH THE "AMOUNT" COLUMN FIGURE)*
1	**Mobilization:** *(not to exceed 5% of the total base bid)*	1	L.S.	$ _____	FOR THE LUMP SUM PRICE OF: _____ ___DOLLARS AND _____CENTS
2	**Primary Communication and Primary Electrical:** *(to include all labor, materials, supervision, overhead and profit to complete work as shown and outlined in project plans and specifications)*	1	L.S.	$ _____	FOR THE LUMP SUM PRICE OF: _____ ___DOLLARS AND _____CENTS
3	**Electrical Distribution Infrastructure Aid to Construction:** *Contractor to include allowance for materials furnished by Huntsville Utilities. (Per Project Specifications)*	1	L.S.	$172,935.00	FOR THE LUMP SUM PRICE OF: _____ ___DOLLARS AND _____CENTS
4	**Street Lights Aid to Construction:** *Contractor to include allowance for materials furnished by Huntsville Utilities. (Per Project Specifications)*	1	L.S.	In Above	FOR THE LUMP SUM PRICE OF: _____ ___DOLLARS AND _____CENTS
5	**Total Allowances Item A (Below)**	1	L.S.	$ _____	FOR THE LUMP SUM PRICE OF: _____ ___DOLLARS AND _____CENTS
	FOR THE TOTAL BASE BID LUMP SUM PRICE OF (ITEMS 1 thru 5):			$ _____	FOR THE LUMP SUM PRICE OF: _____ ___DOLLARS AND _____CENTS

ALLOWANCES TO BE INCLUDED IN BASE BID TOTAL
(Note: Allowances will be used on an as-needed basis. Upon Project Completion, Any Balance will be subtracted from Contract)
ALL VOLUME MEASUREMENTS TO BE "BANK YARDS" - (IN PLACE MEASUREMENT)

ITEM	DESCRIPTION	QTY.	UNIT	UNIT PRICE	TOTAL AMOUNT	AMOUNT DESCRIPTION *(MUST BE WRITTEN IN "WORDS" AND MATCH THE "TOTAL AMOUNT" COLUMN FIGURE)*
A	**Trench Rock Removal and place on-site Allowance:** *For Additive Change Orders*	100	CY	$ _____	$ _____	FOR THE LUMP SUM PRICE OF: _____ ___DOLLARS AND _____CENTS
	Total Allowances for Items A:			$ _____		FOR THE LUMP SUM PRICE OF: _____ ___DOLLARS AND _____CENTS

The Apparent Low Bidder(s) will be required to submit, within Two (2) business day after bid opening, a detailed "balanced" breakdown of Bid Items # 1-5 indicating quantities and unit prices. Such unit prices will be the basis for additive and deductive change orders.

*Legal Name of Bidder (Company) : _____

Mailing Address : _____

By (authorized signature) : _____

Name (Typed) : _____

Title : _____

Date : _____

** If other than the individual proprietor, a named member of the Partnership, the President, Vice-President or Secretary of the Corporation, attach written authority to bind the Bidder. Any modification shall be over the initials of the person signing the bid.*

CERTIFICATION OF COMPLIANCE WITH TITLE 39, CODE OF ALABAMA

In accordance with Code of Alabama (1975) §39-5-1(b), I hereby certify that the contract with Christopher Professional Enterprises, Inc., in the amount of FIVE HUNDRED THIRTY-FIVE THOUSAND EIGHT HUNDRED FIFTEEN AND NO/100 DOLLARS ($535,815.00), for Redstone Gateway Extension, Market Street and Overlook Road Relocation-Package 1F-3 Primary Communication/Primary Electrical, which is being submitted to the City Council of the City of Huntsville for approval on this the 26th day of April, 2012, has been let in accordance with Code of Alabama, Title 39 and all other applicable provisions.

Robert M. Kelley
Senior Project Manager
Brasfield & Gorrie, L.L.C.

E-VERIFY CLAUSE

The Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, *Code of Alabama (1975) § 31-13-1 through 31-13-30"* (also known as and hereinafter referred to as " the Alabama Immigration Act") is applicable to contracts with the City of Huntsville. As a condition for the award of a contract and as a term and condition of the contract with the City of Huntsville, in accordance with § 31-13-9 (a) of the Alabama Immigration Act, any business entity or employer that employs one or more employees shall not knowingly employ, hire for employment, or continue to employ an unauthorized alien and shall attest to such by sworn affidavit signed before a notary. Such business entity or employer shall provide a copy of such affidavit to the City of Huntsville as part of its bid or proposal for the contract along with a copy of the Memorandum of Understanding as documentation establishing that the business entity or employer is enrolled in the E-Verify program. The required affidavit form for the business entity and for sub-consultants/business entities employed by the contracting business entity are included as Attachment "I" in this contract. The original affidavit for your business entity must be returned to the City of Huntsville, the affidavit for the subcontractors should be kept on file in your office, and be made available to the city if requested.

During the performance of the contract, such business entity or employer shall participate in the E-Verify program and shall verify every employee that is required to be verified according to the applicable federal rules and regulations. The business entity or employer shall assure that these requirements are required of every subcontractor in accordance with §31-13-9(c) and shall maintain records that are available upon request by the City, state authorities or law enforcement to verify compliance with the requirements of the Alabama Immigration Act. Failure to comply with these requirements may result in breach of contract, termination of the contract or subcontract, and possibly suspension or revocation of business licenses and permits in accordance with §31-13-9 (e) (1) & (2) or in the case of a subcontractor, in accordance with §31-13- 9 (f) (1) & (2).

Christopher Professional Enterprises, Inc.
(Company)

BY:
(Authorized Representative)