

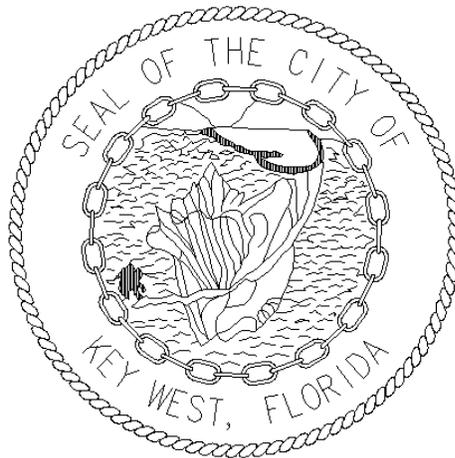
Invitation to Bid DOCUMENTS

FOR THE CONSTRUCTION OF THE

NELSON ENGLISH/WILLIE WARD RENOVATION/ENHANCEMENT PROJECT

PROJECT No. BV-1003

City of Key West ITB #13-009



CITY OF KEY WEST

MAYOR: CRAIG CATES

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BILLY WARDLOW

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MARK ROSSI

CLAYTON LOPEZ

TERI JOHNSTON

PREPARED BY:
CITY OF KEY WEST
GENERAL SERVICES

ITB DOCUMENTS

CITY OF KEY WEST

Key West, Florida

BID DOCUMENTS

for construction of the

NELSON ENGLISH/WILLIE WARD RENOVATION/ENHANCEMENT PROJECT

CONSISTING OF:
BIDDING REQUIREMENTS
CONTRACT FORMS
CONDITIONS OF THE CONTRACT
TECHNICAL SPECIFICATIONS
DRAWINGS

CITY OF KEY WEST

GENERAL SERVICES

Key West, Florida

JANUARY 2013

Project No. BV-1003

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* * * * *

PART 1

BIDDING REQUIREMENTS

INVITATION TO BID

Sealed Bids for the **NELSON ENGLISH/WILLIE WARD RENOVATION/ENHANCEMENT PROJECT, BV1003**, addressed to the City of Key West, will be received at the office of the City Clerk, 3126 Flagler Avenue, City of Key West, Florida until **3:00 p.m.**, local time, on the **6th day of February, 2013**, and then will be publicly opened and read. Any bids received after the time and date specified will not be considered.

Please submit one (1) original and one (1) copy of the bid package, and two (2) CD-ROMS with one single PDF file of the entire bid package. Bid package shall be enclosed in a sealed envelope, clearly marked on the outside **“BID FOR CONSTRUCTION OF NELSON ENGLISH/WILLIE WARD RENOVATION/ENHANCEMENT PROJECT,”** addressed and delivered to the City Clerk at the address noted above.

The City retains the right to award bid to the bidder that best meet the needs of the City.

This project proposes the installation of playground equipment, adult exercise equipment, flexible pavement and sidewalks, landscape and irrigation system, site lighting, and stormwater management system; installation of a manufactured picnic shelter; renovation of the Martin Luther King, Jr. Community Pool entrance and parking area; construction of a parking area along Amelia Street; and construction of a plaza and ADA Accessible restrooms.

Drawings and Specifications may be obtained from Demand Star by Onvia. Please contact Demand Star at www.demandstar.com or call 1-800-711-1712.

A highly recommended Pre-Bid Meeting will be held at the Nelson English Park, on January 16, 2013, 10:00 a.m. Attendees shall assemble in front of the Martin Luther King, Jr. Community Pool entrance plaza. The purpose of the meeting will be to discuss the scope of work and requirements relative to completing this project, and answer questions of the prospective bidders.

Each Bid must be submitted on the prescribed form and accompanied by bid security as prescribed in the Instructions to Bidders, payable to the City of Key West, Florida, in an amount not less than five (5) percent of the amount bid.

Bidders must hold or obtain all Licenses as required by Florida State Statutes in order to bid.

The successful Bidder will be required to furnish the necessary additional bond(s) for the faithful performance of the Contract, as prescribed in the Bidding Documents. Within 10 days after the Notice of Award, the successful Bidder will also be required to furnish documentation showing that he is in compliance with the provisions of Chapter 66 Section 87 of the Code of Ordinances of the City of Key West. Compliance with these provisions is required before he can enter into the agreement contained in the Contract Documents. Specifically, within 10 days after the Notice of Award, the successful Bidder must demonstrate that he holds, as a minimum, the following licenses and certificates required by State Statute and local codes:

- A. City of Key West License, as defined in Code of Ordinances, Chapter 66, enabling the Contractor to perform the work stated herein.
- B. A valid Certificate of Competency issued by the Chief Building Official of Key West, Florida.
- C. A valid occupational license issued by the City of Key West, Florida.

Each bid must be submitted on the prescribed form and accompanied by bid security as prescribed in the instructions to bidders, payable to the City of Key West, Florida, in an amount not less than five (5) percent of the bid amount.

The bidder shall be a licensed contractor by the State of Florida and submit proof of such with the bid.

All bid bonds, contract bonds, insurance contracts, and certificates of insurance shall be either executed by or countersigned by a licensed resident agent of the Surety or Insurance Company having his place of business in the State of Florida, and in all ways complying with the insurance laws of the State of Florida. Further, the said Surety or Insurance Company shall be duly licensed and qualified to do business in the State of Florida.

Before a Contract will be awarded for the work contemplated herein, the CITY will conduct such investigation as is necessary to determine the performance record and ability of the apparent low Bidder to perform the size and type of work specified under this Contract. Upon request, the Bidder shall submit such information as deemed necessary by the CITY to evaluate the Bidder's qualifications.

The City of Key West hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, Disadvantaged Business Enterprise will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, gender, religion, age, disability, marital status or national origin in consideration for this award.

For information concerning the proposed work, or for appointment to visit the sites within the City for work that may be issued, contact Ms. Elizabeth Ignoffo, General Services, via telephone; 305-809-3966.

At the time of the bid submittal, the Bidder must provide satisfactory documentation of State licenses. The successful Bidder shall furnish documentation showing that he is in compliance with the licensing requirements of the County of Monroe and the City of Key West, within ten days of issuance of Notice to Award. Permit and/or license requirements and subsequent costs are located within the bid documents. The successful Bidder must also be able to satisfy the City Attorney as to such insurance coverage and legal requirements as may be demanded by the Bid in question.

The City may reject bids for any and/or all of the following reasons: (1) for budgetary reasons, (2) if the bidder misstates or conceals a material fact in its bid, (3) if the bid does not strictly conform to the law or is non-responsive to the bid requirements, (4) if the bid is conditional, or (5) if a change of circumstances occurs making the purpose of the bid unnecessary to the City. The City may also waive any minor formalities or irregularities in any bid, (6) if such rejection is in the best interest of the City.

Dated this _____, the day of _____, 2013.

CITY OF KEY WEST

By _____
Bogdan Vitas, Jr., City Manager

* * * * *

INSTRUCTIONS TO BIDDERS

1. CONTRACT DOCUMENTS

A. FORMAT

The Contract Documents are divided into parts, divisions, and sections for convenient organization and reference. Generally, there has been no attempt to divide the Specification sections into work performed by the various building trades, work by separate subcontractors, or work required for separate facilities in the Project.

B. DOCUMENT INTERPRETATION

Separate sections contained within these Contract Documents are intended to be mutually cooperative and provide all details reasonably required for the execution of proposed work.

Should there be any doubt as to the meaning or intent of said Contract Documents, the Bidder should request of the Engineer, in writing (at least 8 working days prior to bid opening) an interpretation thereof. Any interpretation or change in said Contract Documents will be made only in writing in the form of Addenda to the Documents, which will be furnished to all registered holders of Contract Documents. Bidders shall submit with their Bids, or indicate receipt of, all Addenda. The Owner will not be responsible for any other explanation or interpretations of said Documents.

C. DRAWINGS

Drawings and details of construction are bound separately.

2. GENERAL DESCRIPTION OF THE PROJECT

A general description of the work to be done is contained in the Invitation to Bid. The scope is specified in applicable parts of these Contract Documents.

3. QUALIFICATION OF CONTRACTORS

Prospective Bidders must meet the statutorily prescribed requirements before award of Contract by the Owner. Bidders must hold or obtain all licenses or certificates required by federal, state, or local statutes, or regulations in order to bid and perform the work specified herein.

4. BIDDER'S UNDERSTANDING

Each Bidder must inform himself of the conditions relating to the execution of the work, and it is assumed that he will inspect the site and make himself thoroughly familiar with all the Contract Documents. Failure to do so will not relieve the successful Bidder of his obligation to enter into a Contract and complete the contemplated work in strict accordance with the Contract Documents. It shall be the Bidder's obligation to verify for himself and to his complete satisfaction all information concerning site and subsurface conditions.

Owner will make available to prospective Bidders, upon request and at the office of the Engineer, prior to bid opening, any information that he may have as to subsurface conditions and surface topography at the worksite.

Investigations conducted by the Engineer of subsurface conditions were made for the purpose of study and design. Neither the Owner nor the Engineer assumes any responsibility whatever in respect to the sufficiency or accuracy of borings or of the logs of test borings or of other investigations that have been made, or of the interpretations made thereof. There is no warranty or guarantee, either expressed or implied, that the conditions indicated by such investigations are representative of those existing throughout such area or any part thereof, or that unforeseen developments may not occur.

Logs of test borings, geotechnical reports, or topographic maps showing a record of the data obtained by the Engineer's investigations of surface and subsurface conditions that are made available shall not be considered a part of the Contract Documents, said logs representing only the opinion of the Engineer as to the character of the materials encountered by him in his investigations, are available only for the convenience of the Bidders.

Information derived from inspection of logs of test borings, or pits, geotechnical reports, topographic maps, or from Drawings showing location of utilities and structures will not in any way relieve the Contractor from any risk, or from properly examining the Site and making such additional investigations as he may elect or from properly fulfilling all the terms of the Contract Documents.

Each Bidder shall inform himself of, and the Bidder awarded a Contract shall comply with federal, state, and local laws, statutes, and ordinances relative to the execution of the work. This requirement includes, but is not limited to, applicable regulations concerning minimum wage rates, nondiscrimination in the employment of labor, protection of public and employee safety and health, environmental protection, the protection of natural resources, fire protection, burning and non-burning requirements, permits, fees, and similar subjects.

5. TYPE OF BID

A. LUMP SUM WITH ADDITIONAL ALTERNATE ITEMS

Bid for the work in this project is to be submitted on a lump sum basis for the improvements and enhancements to the English Nelson Park and renovations to the Martin Luther King Community Center entrance plaza. Alternate lump sum bid items for the Amelia Street parking area and the ADA Accessible restrooms are requested in this Bid.

All items required to complete the work specified or shown on the Drawings but not included in the Bid shall be considered incidental to those set forth in the Bid. Payment to the Contractor will be made on the measurement of the work actually performed by the Contractor, as specified in the Contract Documents.

6. PREPARATION OF BID

A. GENERAL

All blank spaces in the Bid form must be filled in, as required, preferably in BLACK INK. All price information shall be shown in both words and figures where required. No changes shall be made in the phraseology of the forms. Written amounts shall govern in case of discrepancy between the amounts stated in writing and the amounts stated in figures. In case of discrepancy between unit prices and extended totals, unit prices shall prevail.

Any Bid shall be deemed informal which contains omissions, erasures, alterations, or additions of any kind, or prices uncalled for, or in which any of the prices are obviously unbalanced, or which in any manner shall fail to conform to the conditions of the published Invitation to Bid.

Only one Bid from any individual, firm, partnership, or corporation, under the same or different names, will be considered. Should it appear to the Owner that any Bidder is interested in more than one Bid for work contemplated; all Bids in which such Bidder is interested will be rejected.

B. SIGNATURE

The Bidder shall sign his Bid in the blank space provided therefor. If Bidder is a corporation, the legal name of the corporation shall be set forth above together with the signature of the officer or officers authorized to sign Contracts on behalf of the corporation. If Bidder is a partnership, the true name of the firm shall be set forth above together with the signature of the partner or partners authorized to sign Contracts in behalf of the partnership. If signature is by an agent, other than an officer of a corporation or a member of a partnership, a notarized power-of-attorney must be on file with the Owner prior to opening of Bids or submitted with the Bid otherwise the Bid will be regarded as not properly authorized.

C. SPECIAL BIDDING REQUIREMENTS

Bidders must provide a project schedule that clearly identifies start and end dates, milestones, float days, etc., for each task and activity. The project construction schedule must be submitted with their Bid. The project schedule shall utilize a critical path method (CPM) progress schedule to calculate completion time for project activities. Each activity time must be a realistic duration.

The Bidder's attention is brought to the hiring practices and licenses and permits of the City of Key West. These are defined in the addition to Article 39, ORDINANCES, PERMITS AND LICENSES, as set forth in the Supplementary Conditions.

The successful Bidder shall maintain a yard and office within the Lower Keys (west of the Seven-Mile Bridge for project duration). All equipment required for the work shall be available at that site. If the Contractor does not have this equipment at his yard he may obtain it by lease, rent, subcontract, or from another site within his company as long as the equipment is available within 7 calendar days after receiving notice to do the work.

The Bidder shall submit with his Bid his experience record showing his experience and expertise in installation, repair, and replacement of stormwater structures as well as installation, repair and replacement of roads and sidewalks. Such experience record shall provide at least ten (10) current or recent projects of similar work preferably within Florida or the southeastern United States. For each project the following information shall be provided:

1. Description and location of work.
2. Contract amount.
3. Dates work was performed.
4. Owner.
5. Name of Owner's contact person and phone number.
6. Engineer.
7. Name of Engineer's contact person and phone number.

D. ATTACHMENTS

Bidder shall complete and submit the following forms with his bid:

Florida Bid Bond
Anti-Kickback Affidavit
Public Entity Crimes Form
City of Key West Indemnification Form
Equal Benefits for Domestic Partners Affidavit
Local Vender Certification
Suspension and Debarment Certification
Statement of No Bid

E. PUBLIC ENTITY CRIMES FORM

Pursuant to the requirements of Chapter 287-133, Laws of Florida, pertaining to the sworn statement on Public Entity Crimes and the Convicted Vendor List, all Bidders shall submit a signed and notarized statement with their Bid on the form provided herein.

F. FLORIDA TRENCH SAFETY ACT

The Bidder's attention is directed to the enactment of the Florida Trench Safety Act which incorporates OSHA Standards 29 CFR s. 1926.650, Subpart P, as the state's trench excavation safety standards. The Bidder shall list separately in the Bid the cost of compliance with these standards on a lineal footage basis and the method of compliance. The Bidder shall determine if special shoring requirements are needed. Special shoring shall be identified and priced on a square footage basis in the Bid. The successful Bidder is fully responsible for the design of the trench safety system and the compliance with the applicable standards for the project.

G. PRE-BID MEETING AND SITE VISIT

A non-mandatory Pre-Bid Meeting will be held at the Nelson English Park, on January 16, 2013, 10:00 a.m. Attendees shall assemble in front of the Martin Luther King, Jr. Community Pool entrance plaza. The purpose of the meeting will be to discuss the scope of work and requirements relative to completing this project, and answer questions of the prospective bidders.

7. STATE AND LOCAL SALES AND USE TAXES

Unless the Supplementary Conditions contains a statement that the Owner is exempt from state sales tax on materials incorporated into the work due to the qualification of the work under this Contract, all state and local sales and use taxes as required by the laws and statutes of the state and its political subdivisions shall be paid by the Contractor. Prices quoted in the Bid shall include all nonexempt sales and use taxes unless provision is made in the Bid form to separately itemize the tax.

8. SUBMISSION OF BID

All Bids must be submitted not later than the time prescribed, at the place, and in the manner set forth in the Invitation to Bid. Bids must be made on the Bid forms provided herewith and submitted intact with the volume containing the Bidding Requirements and Bid Forms.

Each Bid must be submitted in a sealed envelope, so marked as to indicate the Bidder's name and its contents without being opened, and addressed in conformance with the instructions in the Invitation to Bid. One original and one copy of the bid package, and two CD-ROMS with one single PDF file of the entire bid package must be submitted.

9. MODIFICATION OR WITHDRAWAL OF BID

Prior to the time and date designated for receipt of Bids, any Bid submitted may be withdrawn by notice to the party receiving Bids at the place designated for receipt of Bids. Such notice shall be in writing over the signature of the Bidder or by telegram. If by telegram, written confirmation over the signature of the Bidder shall be mailed and postmarked on or before the date and time set for receipt of Bids. No Bid may be withdrawn after the time scheduled for opening of Bids unless the time specified in paragraph AWARD OF CONTRACT of these Instructions to Bidders shall have elapsed.

10. BID SECURITY

Bids must be accompanied by cash, a certified check, or cashiers check drawn on a bank in good standing or a bid bond issued by a Surety authorized to issue such bonds in the state where the work is located in the amount of five percent of the total amount of the Bid submitted. This bid security shall be given as a guarantee that the Bidder will not withdraw his Bid for a period of 60 days after bid opening and that if awarded the Contract, the successful Bidder will execute the attached Contract and furnish properly executed Performance and Payment Bonds, each in the full amount of the Contract price within the time specified.

The Attorney-in-Fact that executes this bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond. Where state statute requires, certification by a resident agent shall also be provided.

If the Bidder elects to furnish a Bid Bond, he shall use the Bid Bond form bound herewith, or one conforming substantially thereto in form and content.

11. RETURN OF BID SECURITY

Within 15 days after the award of the Contract, the Owner will return the bid securities to all Bidders whose Bids are not to be further considered in awarding the Contract. Retained bid securities will be held until the Contract has been finally executed after which all bid securities, other than Bidders' bonds and any guarantees which have been forfeited, will be returned to the respective Bidders whose Bids they accompanied.

12. AWARD OF CONTRACT

Within 60 calendar days after the opening of Bids the Owner will accept one of the Bids or will act in accordance with the following paragraphs. The acceptance of the Bid will be by written notice of award, mailed to the office designated in the Bid or delivered to the Bidder's representative. In the event of failure of the lowest responsive, responsible Bidder to sign the Contract and provide an acceptable Performance Bond, Payment Bond, insurance certificate(s) and evidence of holding required licenses and certificates, the Owner may award the Contract to the next lowest responsive, responsible Bidder. Such award, if made, will be made within 75 days after the opening of Bids.

The Owner reserves the right to accept or reject any or all Bids and to waive any formalities and irregularities in said Bids.

13. BASIS OF AWARD

The award will be made under one Contract by the Owner on the basis of the Bid from the lowest, responsive, responsible Bidder. The Owner may award entire Bid or selected lump sum line items based on the City's best interest and available funds at time of Award.

The Owner will accept one of the Bids or will act in accordance with the following paragraphs. The acceptance of the Bid will be by written notice of award, mailed to the office designated in the Bid, or delivered to the Bidder's representative. In the event of failure of the lowest responsive, responsible Bidder to sign the Contract and provide an acceptable Performance Bond, Payment Bond, insurance certificate(s) and evidence of holding required licenses and certificates, the Owner may award the Contract to the next lowest responsive, responsible Bidder.

The Owner reserves the right to accept or reject any or all Bids, and to waive any informalities and irregularities in said Bids.

14. LOCAL PREFERENCE

Under a competitive bid solicitation, when a responsive, responsible non-local business submits the lowest price bid, and the bid submitted by one or more responsive, responsible local businesses within five percent of the price submitted by the non-local business, then the local business with the apparent lowest bid offer may have the opportunity to submit an offer to match the price(s) offered by the lowest, qualified and responsive non-local bidder, within three (3) working days of the Notice of Intent to Award. If the lowest local bidder submits a bid that fully matches the lowest bid from the lowest non-local bidder tendered previously, then the award shall be made to such local

bidder. If the lowest local bidder declines or is unable to match the lowest non-local bid price(s), then the award shall be made to the non-local business.

15. EXECUTION OF CONTRACT

The successful Bidder shall, within 10 working days after receiving Notice of Award, sign and deliver to the Owner a Contract in the form hereto attached together with the insurance certificate examples of the bonds as required in the Contract Documents and evidence of holding required licenses and certificates. Within 10 working days after receiving the signed Contract from the successful Bidder, the Owner's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract.

16. CONTRACT BONDS

A. PERFORMANCE AND PAYMENT BONDS

The successful Bidder shall file with the Owner, at the time of delivery of the signed Contract, a Performance Bond and Payment Bond on the form bound herewith, each in the full amount of the Contract price in accordance with the requirements of Florida Statutes Section 255.05 or 713.23, as applicable, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the construction of the work and to cover all guarantees against defective workmanship or materials, or both, during the warranty period following the date of final acceptance of the work by the Owner. The Surety furnishing this bond shall have a sound financial standing and a record of service satisfactory to the Owner, shall be authorized to do business in the State of Florida, and shall be listed on the current U.S. Department of Treasury Circular Number 570 or amendments thereto in the Federal Register of acceptable Sureties for federal projects. The Contractor shall supply the owner with phone numbers, addresses, and contacts for the Surety and their agents.

B. POWER-OF-ATTORNEY

The Attorney-in-Fact (Resident Agent) who executes this Performance and Payment Bond in behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond.

All Contracts, Performance and Payment Bonds, and respective powers-of-attorney will have the same date.

17. FAILURE TO EXECUTE CONTRACT AND FURNISH BOND

The Bidder who has a Contract awarded to him and who fails to promptly and properly execute the Contract or furnish the required Bonds shall forfeit the bid security that accompanied his bid and the bid security shall be retained as liquidated damages by the Owner and it is agreed that this said sum is a fair estimate of the amount of damages the Owner will sustain in case the Bidder fails to enter into a Contract or furnish the required Bonds. Bid security deposited in the form of cash, a certified check, or cashier's check shall be subject to the same requirement as a Bid Bond.

18. PERFORMANCE OF WORK BY CONTRACTOR

The Contractor shall perform on the site and with his own organization labor equivalent to at least 40 percent of the total amount of the work to be performed under this Contract. If, during the progress of the work hereunder, the Contractor requests a reduction of such percentage and the Engineer determines that it would be to the client's advantage the percentage of the labor required to be performed by the Contractor's own organization may be reduced; provided prior written approval of such reduction is obtained by the contractor from the Engineer.

Each Bidder must furnish with his Bid a list of the items that he will perform with his own forces and the estimated total cost of these items. Attach additional pages if necessary.

19. TIME OF COMPLETION

The time of completion of the work to be performed under this Contract is the essence of the Contract. Delays and extensions of time may only be allowed in accordance with the provisions stated in the General Conditions. Time allowed for completion of the work authorized is stated in Bid.

When the Contractor receives a Notice to Proceed, he shall commence work as soon as possible and shall complete all work within the number of calendar days stipulated in the Contract.

20. EQUAL BENEFITS FOR DOMESTIC PARTNERS REQUIREMENTS

Except where otherwise exempt or prohibited by law, a contractor awarded a contract pursuant to a bid process shall provide benefits to domestic partners of its employees on the same basis as it provides benefits to employees spouses, in accordance with City of Key West Code of Ordinances, Chapter 2, Section 2-799.

Such certification shall be in writing and shall be signed by an authorized officer of the contractor and delivered, along with a description of the contractor's employee benefits plan, to the City's procurement director prior to entering a contract.

If the contractor fails to comply with this section, the City may terminate the contract and all monies due or to become due under the contract may be retained by the City.

* * * * *

BID FORM

To: The City of Key West

Address: 3126 Flagler Avenue, Key West, Florida 33040
Post Office Box 1409, Key West, Florida 33041

Project Title: **Nelson English/Willie Ward Park Renovation/Enhancement Project**

Project No.: BV-1003

Bidder's person to contact for additional information on this Bid:

Name: _____

Telephone: _____ Email: _____

BIDDER'S DECLARATION AND UNDERSTANDING

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this Bid are those named herein, that this Bid is, in all respects, fair and without fraud, that it is made without collusion with any official of the Owner, and that the Bid is made without any connection or collusion with any person submitting another Bid on this Contract.

The Bidder further declares that he has carefully examined the Contract Documents, that he has personally inspected the Project, that he has satisfied himself as to the quantities involved, including materials and equipment, and conditions of work involved, including the fact that the description of the quantities of work and materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the Contract Documents, and that this Bid is made according to the provisions and under the terms of the Contract Documents, which Documents are hereby made a part of this Bid.

The Bidder further agrees that he has exercised his own judgment regarding the interpretation of subsurface information and has utilized all data which he believes pertinent from the Engineer, Owner, and other sources in arriving at his conclusions.

The Bidder further agrees that the Owner may “non-perform” the work in the event that the low bid is in excess of available funding. Non-performance will be determined prior to Notice of Award.

The intent of the Bid Documents is to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any work, materials, or equipment that may reasonably be inferred from the Contract Documents, as being required to produce the intended result shall be supplied, whether or not specifically called for in the Contract Documents.

The Bidder further agrees, as evidenced by signing the Bid, which if awarded a Contract, the Florida Trench Safety Act and applicable trench safety standards will be complied with.

CONTRACT EXECUTION AND BONDS

The Bidder agrees that if this Bid is accepted, he will, within 10 days, not including Sundays and legal holidays, after Notice of Award, sign the Contract in the form annexed hereto, and will at that time, deliver to the Owner examples of the Performance Bond and Payment Bond required herein, and evidence of holding required licenses and certificates, and will, to the extent of his Bid, furnish all machinery, tools, apparatus, and other means of construction and do the work and furnish all the materials necessary to complete all work as specified or indicated in the Contract Documents.

CERTIFICATES OF INSURANCE

Bidder agrees to furnish the Owner, before commencing the work under this Contract, the certificates of insurance, as specified in these Documents.

START OF CONSTRUCTION AND CONTRACT COMPLETION TIME

Construction start date is anticipated to be April 19, 2013.

The Bidder agrees to provide and maintain safe access to the existing basketball court and playground area by June 6, 2013, continuing throughout the contract duration.

The Bidder agrees to achieve Substantial Completion for the Nelson English Park improvements by June 6, 2013, including, but not limited to, landscape planting, placement of the hardscape pavements, installation of the fitness exercise and playground equipment, and construction of the Thomas Street parking area.

The Bidder agrees to achieve Substantial Completion for the entrance plaza and park improvements by September 16, 2013 (150 days), including, but not limited to, plaza renovations, flood proof walls, ADA Accessible parking spaces, roof drainage system, and pedestrian lighting, picnic shelter, and Additive Alternate #2 tensile fabric shade structure.

The Bidder agrees to achieve Final Completion for entrance plaza and park improvements by October 16, 2013 (180 days total).

The Bidder agrees to achieve Substantial Completion for Additive Alternate #1, construction of the Amelia Street parking area by November 15, 2013 (210 days), including installation of the pavers, curbs, and stormwater management system, and Final Completion by December 15, 2013 (240 days total).

The Bidder agrees to achieve Substantial Completion for Additive Alternate #3 ADA Accessible restrooms by September 12, 2014 (17 months) and Final Completion by October 13, 2014 (18 months).

LIQUIDATED DAMAGES

In the event the Bidder is awarded the Contract and fails to complete the work within the time limit or extended time limit agreed upon, as more particularly set forth in the Contract Documents, Owner and Bidder agree that as liquidated damages for delay (but not as a penalty) Bidder shall pay Owner \$3,000.00 per day for each day that expires after the time specified for substantial completion.

After substantial completion, if Bidder neglects, refuses, or fails to complete the remaining Work within the Contract Times or any Owner-granted extension thereof, Bidder shall pay Owner \$1,000.00 for each day that expires after the time specified in paragraph Start of Construction and Contract Completion Times above, for completion and readiness for final payment. Liquidated damages shall run concurrent.

Sundays and legal holidays shall be included in determining days in default.

Owner will recover such liquidated damages by deducting the amount owed from the final payment or any retainage held by Owner.

ADDENDA

The Bidder hereby acknowledges that he has received Addenda No's. _____, _____, _____, _____, (Bidder shall insert No. of each Addendum received) and agrees that all addenda issued are hereby made part of the Contract Documents, and the Bidder further agrees that his Bid(s) includes all impacts resulting from said addenda.

SALES AND USE TAXES

The Bidder agrees that all federal, state, and local sales and use taxes are included in the stated bid prices for the work.

PUBLIC ENTITY CRIMES

“A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to a public entity, may not submit a bid on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a CONTRACTOR, supplier, subcontractor, or consultant under a contract with any public entity and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.”

COMBINED UNIT PRICE AND LUMP SUM WORK

The Bidder further agrees to accept as full payment for the Work proposed herein the amounts computed under the provisions of the Contract Documents and based on the following unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved.

For unit price bid items, the estimate of quantities of work to be done is tabulated in the Bid and, although stated with as much accuracy as possible, is approximate only and is assumed solely for the basis of calculation upon which the award of Contract shall be made. For lump sum bid items, it is expressly understood that the amounts are independent of the exact quantities involved.

The Bidder agrees that the amounts for both unit price and lump sum work represent a true measure of labor and materials required to perform the Work, including all allowances for overhead and profit for each type of work called for in these Contract Documents. The amounts shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.

AUTOMOBILE LIABILITY INSURANCE, CONTRACTORS COMMERCIAL GENERAL LIABILITY INSURANCE, AND WORKER'S COMPENSATION INSURANCE

CONTRACTOR is to secure, pay for, and file with the City of Key West, prior to commencing any work under the Contract, all certificates for workers' compensation, public liability, and property damage liability insurance, and such other insurance coverages as may be required by specifications and addenda thereto, in at least the following minimum amounts with specification amounts to prevail if greater than

minimum amounts indicated. Notwithstanding any other provision of the Contract, the CONTRACTOR shall provide the minimum limits of liability insurance coverage as follows:

Auto Liability	\$1,000,000	Combined Single Limit
General Liability	\$2,000,000	Aggregate (Per Project)
	\$2,000,000	Products Aggregate
	\$1,000,000	Any One Occurrence
	\$1,000,000	Personal Injury
	\$ 300,000	Fire Damage/Legal
Additional Umbrella Liability	\$2,000,000	Occurrence / Aggregate

CONTRACTOR shall furnish an original Certificate of Insurance indicating, and such policy providing coverage to, City of Key West named as an additional insured on a PRIMARY and NON CONTRIBUTORY basis utilizing an ISO standard endorsement at least as broad as CG 2010 (11/85) or its equivalent, (combination of CG 20 10 07 04 and CG 20 37 07 04, providing coverage for completed operations, is acceptable) including a waiver of subrogation clause in favor of City of Key West on all policies. CONTRACTOR will maintain the General Liability and Umbrella Liability insurance coverages summarized above with coverage continuing in full force including the additional insured endorsement until at least 3 years beyond completion and delivery of the work contracted herein.

Notwithstanding any other provision of the Contract, the CONTRACTOR shall maintain complete workers' compensation coverage for each and every employee, principal, officer, representative, or agent of the CONTRACTOR who is performing any labor, services, or material under the Contract. Further, CONTRACTOR shall additionally maintain the following minimum limits of coverage:

Bodily Injury Each Accident	\$1,000,000
Bodily Injury by Disease Each Employee	\$1,000,000
Bodily Injury by Disease Policy Limit	\$1,000,000

If the work is being done on or near a navigable waterway, CONTRACTOR's workers compensation policy shall be endorsed to provide USL&H Act (WC 00 01 06 A) and Jones Act (WC 00 02 01 A) coverage if specified by the City of Key West. CONTRACTOR shall provide the City of Key West with a Certificate of Insurance verifying compliance with the workman's compensation coverage as set forth herein and shall provide as often as required by the City of Key West such certification which shall also show the insurance company, policy number, effective and expiration date, and the limits of workman's compensation coverage under each policy.

CONTRACTOR's insurance policies shall be endorsed to give 30 days written notice to the City of Key West in the event of cancellation or material change, using form CG 02 24, or its equivalent.

Certificates of Insurance submitted to the City of Key West will not be accepted without copies of the endorsements being requested. This includes additional insured endorsements, cancellation/material change notice endorsements, and waivers of subrogation. Copies of USL&H Act and Jones Act endorsements will also be required if necessary. PLEASE ADVISE YOUR INSURANCE AGENT ACCORDINGLY.

CONTRACTOR will comply with any and all safety regulations required by any agency or regulatory body including but not limited to OSHA. CONTRACTOR will notify City of Key West immediately by telephone at (305) 809-3811 any accident or injury to anyone that occurs on the jobsite and is related to any of the work being performed by the CONTRACTOR.

INDEMNIFICATION

To the fullest extent permitted by law, the CONTRACTOR expressly agrees to indemnify and hold harmless the City of Key West, their officers, and employees (herein called the “indemnitees”) from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney’s fees, to the extent caused by negligence, recklessness, or intentional wrongful misconduct of the CONTRACTOR, its Subcontractors or persons employed or utilized by them in the performance of the Contract. Except as specifically provided herein, this Contract does not require CONTRACTOR to indemnify the City of West, its employees, officers, directors, or agents from liability, damage, loss, claim, or action or proceeding.

The indemnification provided above shall obligate CONTRACTOR to defend at its own expense to and through appellate, supplemental or bankruptcy proceeding, or to provide for such defense, at the City of Key West’s options, any and all claims of liability and all suits and actions of every name and description covered above which may be brought against the City of Key West, whether performed by CONTRACTOR, or persons employed or utilized by CONTRACTOR.

BUILDING PERMIT ALLOWANCE

Bidder further acknowledges that this amount shown is an estimated amount to be included in the Total Base Bid for the Building Permit required by the City of Key West. Bidder acknowledges that payment will be based on actual costs for the permit(s).

PAYMENT RETAINAGE

Bidder further acknowledges that Owner will deduct from the partial payment estimate and retain, as part security, ten percent (10%) of the amount earned for work satisfactorily completed. A deduction and retainage of ten percent (10%) will be made on the estimated amount earned for approved items of material delivered to and properly stored at the jobsite but not incorporated into the work.

BID SCHEDULE

Nelson English/Willie Ward Park Renovation/Enhancement Project

LUMP SUM BID PRICE ITEMS

Bidder will complete the Work in accordance with the Contract Documents for a fixed fee price.

The Bidder further agrees that the unit prices represent a true measure of the labor and materials required to perform the work, including all allowances for overhead and profit for each type of work called for in these Contract Documents. The amounts shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

<u>Item</u>	<u>UP (Fig)</u>	<u>PU (Words)</u>	<u>Extended Total Amt</u>
1. Performance and Payment Bonds			
LS	\$ _____	_____	\$ _____
2. General and Supplementary Conditions, Mobilization and Demobilization, Insurance Requirements, Testing Services, Field Engineering, Measurement and Payment, As-built Survey and Plans, and Environmental Protection.			
LS	\$ _____	_____	\$ _____
3. Building Permit Allowance			
LS	\$ _____	_____	\$ _____
4. Site Demolition, to include, but not be limited to removal of sidewalks and curb, the abandoned manhole, concrete pads, playground equipment, and plant material in coordination with the landscape plans, as indicated on Sheet AD1.1.1. Note: Playground equipment, benches, tables, flag pole and marker, and miscellaneous park appurtenances shall remain the possession of the Owner.			
LS	\$ _____	_____	\$ _____
5. Excluding the Amelia Street parking area, purchase and installation of the brick paver walkways, stairs, flexible pavements, sidewalks, curbs, asphalt pavement, and concrete pavers, site grading and construction of the stormwater management system swale areas, purchase and installation of the roof drain inlets and storm drain piping, in accordance with Sheets A.0.1.2 through A.0.1.5, and A1.2.0 through A1.2.4 and A1.6.1, A1.6.2, A1.6.5, C-1, C-2, or equal as described in the specifications, and includes all labor, equipment, and necessary appurtenances.			
LS	\$ _____	_____	\$ _____

TOTAL LUMP SUM BID

\$ _____
(numerals)

_____ Dollars and _____ Cents

(Amount Written in Words has Precedence)

ADDITIVE ALTERNATE #1

12. Construction of the Amelia Street parking area, including the purchase and installation of paver materials, concrete curbs, installation of the stormwater treatment exfiltration trench and curb inlet, including parking area grading, in accordance with Sheets A.0.1.2 through A.0.1.5, and A1.2.0, A1.2.1, A1.6.5, C-1, C-2, or equal as described in the specifications, and includes all labor, equipment, and necessary appurtenances.

LS \$ _____

ADDITIVE ALTERNATE #2

13. Purchase and installation of Willie Ward Park landscaping and irrigation system, in accordance with Sheets L1.2.0, L1.2.2, I1.2.3, or equal, and includes labor, equipment, and necessary appurtenances.

LS \$ _____

14. Purchase and installation of the storytime area tensile fabric shade structure, in accordance with Sheets A1.3.0 and A1.3.4, or equal as described in the specifications, and includes all labor, equipment, and necessary appurtenances.

LS \$ _____

ADDITIVE ALTERNATE #3

15. Purchase of materials and construction of two (2) ADA Accessible restrooms, in accordance with Sheets A.0.1.2 through A.0.1.5, and A2.1.1, A.2.2.1, A3.1.1, A3.2.1, A6.1.1, P1.1.1, or equal as described in the specifications, and includes all labor, equipment, and necessary appurtenances.

LS \$ _____

SUBCONTRACTORS

The Bidder further proposes that the following subcontracting firms or businesses will be awarded subcontracts for the following portions of the work in the event that the Bidder is awarded the Contract:

Portion of Work

Name

Street City State Zip

Portion of Work

Name

Street City State Zip

Portion of Work

Name

Street City State Zip

Portion of Work

Name

Street City State Zip

SURETY

_____ whose address is

_____, _____, _____, _____
Street City State Zip

Phone Resident Agent

BIDDER

The name of the Bidder submitting this Bid is _____

_____ doing business at

_____, _____, _____, _____
Street City State Zip

email address

which is the address to which all communications concerned with this Bid and with the Contract shall be sent.

The names of the principal officers of the corporation submitting this Bid, or of the partnership, or of all persons interested in this Bid as principals are as follows:

Name	Title
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

If Sole Proprietor or Partnership

IN WITNESS hereto the undersigned has set his (its) hand this _____ day of _____ 2013.

Signature of Bidder

Title

If Corporation

IN WITNESS WHEREOF the undersigned corporation has caused this instrument to be executed and its seal affixed by its duly authorized officers this _____ day of _____ 2013.

(SEAL)

Name of Corporation

By _____

Title _____

Attest _____
Secretary

FLORIDA BID BOND

BOND NO. _____

AMOUNT: \$ _____

KNOW ALL MEN BY THESE PRESENTS, that _____

hereinafter called the PRINCIPAL, and _____

a corporation duly organized under the laws of the State of _____

having its principal place of business at _____

_____ in the State of _____

and authorized to do business in the State of Florida, as SURETY, are held and firmly bound

unto _____

hereinafter called the OBLIGEE, in the sum of _____

DOLLARS (\$ _____) for the payment for which we bind ourselves, our

heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these present.

THE CONDITION OF THIS BOND IS SUCH THAT:

WHEREAS, the PRINCIPAL is herewith submitting his or its Bid for BV1003, ENGLISH NELSON/WILLIE WARD RENOVATIONS/ENHANCEMENTS, Key West, Florida, said Bid, by reference thereto, being hereby made a part hereof.

WHEREAS, the PRINCIPAL contemplates submitting or has submitted a bid to the OBLIGEE for the furnishing of all labor, materials (except those to be specifically furnished by the Owner), equipment, machinery, tools, apparatus, means of transportation for, and the performance of the work covered in the Bid and the detailed Drawings and Specifications, entitled:

BV1003, ENGLISH NELSON/WILLIE WARD RENOVATIONS/ENHANCEMENTS PROJECT, Key West, Florida

WHEREAS, it was a condition precedent to the submission of said bid that cash, cashier's check, certified check, or bid bond in the amount of 5 percent of the base bid be submitted with said bid as a guarantee that the Bidder would, if awarded the Contract, enter into a written Contract with the Owner for the performance of said Contract, within 10 working days after written notice having been given of the award of the Contract.

NOW, THEREFORE, the conditions of this obligation are such that if the PRINCIPAL within 10 consecutive calendar days after written notice of such acceptance, enters into a written Contract with the OBLIGEE and furnishes the Performance and Payment Bonds, each in an amount equal to 100 percent of the base bid, satisfactory to the Owner, then this obligation shall be void; otherwise the sum herein stated shall be due and payable to the OBLIGEE and the Surety herein agrees to pay said sum immediately upon demand of the OBLIGEE in good and lawful money of the United States of America, as liquidated damages for failure thereof of said PRINCIPAL.

Signed and sealed this _____ day of _____ 2013.

PRINCIPAL _____

By _____

SURETY _____

By _____
Attorney-In-Fact

* * * * *

ANTI-KICKBACK AFFIDAVIT

STATE OF FLORIDA)
 : SS
COUNTY OF MONROE)

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein bid will be paid to any employees of the City of Key West as a commission, kickback, reward or gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By: _____

Sworn and subscribed before me this _____ day of _____ 2013.

NOTARY PUBLIC, State of Florida at Large

My Commission Expires:

* * * * *

**SWORN STATEMENT UNDER SECTION 287.133(3)(A)
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES**

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted with Bid or Proposal for _____

2. This sworn statement is submitted by _____
(name of entity submitting sworn statement)

whose business address is _____

and (if applicable) its Federal Employer Identification Number (FEIN) is _____

(If the entity has no FEIN, include the Social Security Number of the individual
signing this sworn statement _____)

3. My name is _____
(please print name of individual signing)

and my relationship to the entity named above is _____

4. I understand that a “public entity crime” as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including but not limited to, any bid or contract for goods or services to be provided to any public or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, material misrepresentation.

5. I understand that “convicted” or “conviction” as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an “affiliate” as defined in Paragraph 287.133(1)(a), Florida Statutes, means

1. A predecessor or successor of a person convicted of a public entity crime; or
2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term “affiliate” includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm’s length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(8), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.
8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. (Please indicate which statement applies).

____Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND (Please indicate which additional statement applies.)

____There has been a proceeding concerning the conviction before a hearing of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. (Please attach a copy of the final order.)

____The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. (Please attach a copy of the final order.)

____The person or affiliate has not been put on the convicted vendor list. (Please describe any action taken by or pending with the Department of General Services.)

(signature)

(date)

STATE OF _____

COUNTY OF _____

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

_____, Who, after first being sworn by me, affixed his/her
(name of individual signing)

signature in the space provided above on this _____ day of _____, 2013.

My commission expires:

NOTARY PUBLIC

CITY OF KEY WEST INDEMNIFICATION FORM

Contractor agrees to protect, defend, indemnify, save and hold harmless The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, agents, servants and employees, including volunteers, from and against any and all claims, debts, demands, expense and liability arising out of injury or death to any person or the damage, loss of destruction of any property which may occur or in any way grow out of any act or omission of the Contractor, its agents, servants, and employees, or any and all costs, expense and/or attorney fees incurred by the City as a result of any claim, demands, and/or causes of action except of those claims, demands, and/or causes of action arising out of the negligence of The City of Key West, all its Departments, Agencies, Boards, Commissions, officers, agents, servants and employees. The Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demand, or suit at its sole expense and agrees to bear all other costs and expenses related thereto, even if it (claims, etc.) is groundless, false or fraudulent. The City of Key West does not waive any of its sovereign immunity rights, including but not limited to, those expressed in Section 768.28, Florida Statutes.

These indemnifications shall survive the term of this agreement. In the event that any action or proceeding is brought against the City of Key West by reason of such claim or demand, Contractor shall, upon written notice from the City of Key West, resist and defend such action or proceeding by counsel satisfactory to the City of Key West.

The indemnification provided above shall obligate Contractor to defend at its own expense to and through appellate, supplemental or bankruptcy proceeding, or to provide for such defense, at the City of Key West's option, any and all claims of liability and all suits and actions of every name and description covered above which may be brought against the City of Key West whether performed by Contractor, or persons employed or utilized by Contractor.

The Contractor's obligation under this provision shall not be limited in any way by the agreed upon Contract Price as shown in this agreement, or the Contractor's limit of or lack of sufficient insurance protection.

CONTRACTOR: _____

SEAL:

Address

Signature

Print Name

Title

Date

EQUAL BENEFITS FOR DOMESTIC PARTNERS AFFIDAVIT

STATE OF FLORIDA)
 : SS
COUNTY OF MONROE)

I, the undersigned hereby duly sworn, depose and say that the firm of _____

_____ provides benefits to domestic partners of its employees on the same basis as it provides benefits to employees' spouses, per City of Key West Code of Ordinances Sec. 2-799.

By: _____

Sworn and subscribed before me this _____ day of _____ 2013.

NOTARY PUBLIC, State of Florida at Large

My Commission Expires:

* * * * *

**LOCAL VENDOR CERTIFICATION
PURSUANT TO CITY OF KEY WEST CODE OF ORDINANCES SECTION 2-798**

The undersigned, as a duly authorized representative of the vendor listed herein, certifies to the best of his/her knowledge and belief, that the vendor meets the definition of a "Local Business." For purposes of this section, "local business" shall mean a business which:

- a. Principle address as registered with the FL Department of State located within 30 miles of the boundaries of the city, listed with the chief licensing official as having a business tax receipt with its principle address within 30 miles of the boundaries of the city for at least one year immediately prior to the issuance of the solicitation.
- b. Maintains a workforce of at least 50 percent of its employees from the city or within 30 miles of its boundaries.
- c. Having paid all current license taxes and any other fees due the city at least 24 hours prior to the publication of the call for bids or request for proposals.
 - Not a local vendor pursuant to Code of Ordinances Section 2-798
 - Qualifies as a local vendor pursuant to Code of Ordinances Section 2-798

If you qualify, please complete the following in support of the self-certification & submit copies of your County and City business licenses. Failure to provide the information requested will result in denial of certification as a local business.

Business Name

Phone:

Current Local Address:

Fax:

(P.O Box numbers may not be used to establish status)

Length of time at this address

Signature of Authorized Representative

Date

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this _____ day of _____, 20__.

By _____, of _____
(Name of officer or agent, title of officer or agent) Name of corporation acknowledging)
or has produced _____ as identification
(type of identification)

Signature of Notary

Print, Type or Stamp Name of Notary

Title or Rank

Return Completed form with
Supporting documents to:
City of Key West Purchasing

SUSPENSION AND DEBARMENT CERTIFICATION

CERTIFICATION REGARDING DEBARMENTS, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION-LOWER TIER FEDERALLY FUNDED TRANSACTIONS

1. The undersigned hereby certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. The undersigned also certifies that it and its principals:

(a) Have not within a three-year period preceding this certification been convicted of or had a civil judgment rendered

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

(b) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 2.(a) of this Certification; and

(c) Have not within a three-year period preceding this certification had one or more public transactions (Federal, State or local) terminated for cause or default.

3. Where the undersigned is unable to certify to any of the statements in this certification, an explanation shall be attached to this certification.

Dated this _____ day of _____, 20____.

By _____
Authorized Signature/Contractor

Typed Name/Title

Contractor's Firm Name

Street Address

Building, Suite Number

City/State/Zip Code

Area Code/Telephone Number

BIDDER'S CHECKLIST

(Note: The purpose of this checklist is to serve as a reminder of major items to be addressed in submitting a bid and is not intended to be all inclusive. It does not alleviate the Bidder from the responsibility of becoming familiar with all aspects of the Contract Documents and Proper completion and submission of his bid.)

1. All Contract Documents thoroughly read and understood
2. All blank spaces in Bid filled in black ink.
3. Total and unit Prices added correctly.
4. Addenda acknowledged.
5. Subcontractors are named as indicated in the Bid.
6. Experience record included.
7. Bid signed by authorized officer.
8. Bid Bond completed and executed, including power-of-attorney, dated the same day.
9. Bidder familiar with federal, state, and local laws, ordinances, rules and regulations affecting performance of the work.
10. Bidder, if successful, able to obtain and/or demonstrate possession of required licenses and certificates within 10 days after receiving a Notice of Award.
11. Bid submitted intact with the volume containing the Bidding Requirements, Contract Forms and Conditions of the Contract.
12. Bid Documents submitted in sealed envelope and addressed and labeled in conformance with the instructions in the Invitation to Bid.
13. Anti-kickback Affidavit, Public Entity Crime Form, City of Key West Indemnification Equal Benefits for Domestic Partners Affidavit, Local Vendor Certification, Suspension and Debarment Certification,

PART 2

CONTRACT FORMS

CONTRACT AGREEMENT

This Contract, made and entered into _____ day of _____ 2013,
by and between the City of Key West, hereinafter called the "Owner", and
_____, hereinafter called the "Contractor";

WITNESSETH:

The Contractor, in consideration of the sum to be paid him by the Owner and of the covenants and agreements herein contained, hereby agrees at his own proper cost and expense to do all the work and furnish all the materials, tools, labor, and all appliances, machinery, and appurtenances for ENGLISH NELSON/WILLIE WARD RENOVATION/ENHANCEMENT PROJECT, BV-1103, Key West, Florida to the extent of the Bid made by the Contractor, dated the _____ day of _____, 2013, all in full compliance with the Contract Documents referred to herein.

The BIDDING REQUIREMENTS, including the signed copy of the BID FORM, the CONTRACT FORMS, the CONDITIONS OF THE CONTRACT, the SPECIFICATIONS, and the DRAWINGS, which consist of Detailed Drawings for the ENGLISH NELSON/WILLIE WARD RENOVATION/ENHANCEMENT PROJECT, dated August 17, 2012, are hereby referred to and by reference made part of this Contract as fully and completely as if the same were fully set forth herein and are mutually cooperative therewith.

In consideration of the performance of the work as set forth in these Contract Documents, the Owner agrees to pay to the Contractor the amount bid in the Bid as adjusted in accordance with the Contract Documents, or as otherwise herein provided, and to make such payments in the manner and at the times provided in the Contract Documents.

The Contractor agrees to complete the work within the time specified in the Contract and to accept as full payment hereunder the amounts computed as determined by the Contract Documents and based on the said Bid.

The Contractor agrees to remedy all defects appearing in the work or developing in the materials furnished and the workmanship performed under this Contract during the warranty period after the date of final acceptance of the work by the Owner, and further agrees to indemnify and save the Owner harmless from any costs encountered in remedying such defects.

It is agreed that the Contract, based upon the Bids for the Nelson English Park hardscape enhancements, landscaping, fitness and playground equipment, and Thomas Street parking area, shall be substantially complete by June 6, 2013, and will be totally complete and ready for final payment and acceptance by October 16, 2013.

It is agreed that the Contract, based upon the Bids for the Nelson English/Willie Ward Park and Martin Luther King Jr. Community Pool entrance renovations/enhancements, shall be substantially complete by September 16, 2013, and will be totally complete and ready for final payment and acceptance by October 16, 2013.

It is agreed that the Contract, based upon the Bids for the Additive Alternate #1 Amelia Street parking area, shall be substantially complete by November 15, 2013, and will be totally complete and ready for final payment and acceptance by December 15, 2013.

It is agreed that the Contract, based upon the Bids for the Additive Alternate #3 ADA Accessible restrooms, shall be substantially complete by September 12, 2014, and will be totally complete and ready for final payment and acceptance by October 13, 2014.

Liquidated Damages: The Contractor recognizes that time is of the essence and that the Owner will suffer financial loss if the Work is not completed within the dates specified in the paragraphs above, plus any extensions thereof allowed, in accordance with Article 58 of the General Conditions.

Owner and Contractor also recognize the delays, expense and difficulties involved in proving in a legal proceeding actual loss suffered by the Owner, if the Work is not completed on time. Accordingly, instead of requiring any such proof, the Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay the Owner \$3,000.00 per day for each day that expires after the time specified for substantial completion. After substantial completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the contract times or any proper extension thereof granted by the Owner, Contractor shall pay the Owner \$1,000.00 for each day that expires after the time specified for completion and readiness for final payment. Liquidated damages shall run concurrent.

IN WITNESS WHEREOF, we, the parties hereto, each herewith subscribe the same this

_____ day of _____, A.D., 2013.

CITY OF KEY WEST

By_____

Title_____

CONTRACTOR:

By_____

Title_____

APPROVED AS TO FORM

Attorney for Owner

* * * * *

PERFORMANCE BOND

BOND NO.
AMOUNT: \$

KNOW ALL MEN BY THESE PRESENTS, that in accordance with Florida Statutes Section 255.05, _____, with offices at _____, hereinafter called the CONTRACTOR (Principal), and

_____ with offices at _____ a corporate duly organized and existing under and by virtue of the laws of the State of _____ hereinafter called the SURETY, and authorized to transact business within the State of Florida, as SURETY, are held and firmly bound unto **CITY OF KEY WEST**, represented by its _____, hereinafter called the CITY (Obligee), in the sum of:

_____ (\$_____), lawful money of the United States of America, for the payment of which, well and truly be made to the CITY, the CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain Contract hereto attached, with the CITY, dated _____, 20____, to furnish at his own cost, charges, and expense all the necessary materials, equipment, and/or labor in strict and express accordance with said Contract and the Contract Documents as defined therein, all of which is made a part of said Contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein;

NOW THEREFORE, the conditions of this obligation are such that if the above bounden CONTRACTOR:

1. Shall in all respects comply with the terms and conditions of said Contract and his obligation thereunder, including the Contract Documents, being made a part of this bond by reference, at the times and in the manner prescribed in the contract; and
2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying CONTRACTOR with labor, materials, or supplies, used directly or indirectly by CONTRACTOR in the prosecution of the work provided for in the contract; and
3. Pays CITY all losses, costs, expenses, damages, attorney’s fees, including appellate proceedings, injury or loss of whatever kind and however arising including, without limitation, delay damages to

which said CITY may be subject by reason of any wrongdoing, misconduct, want of care or skill, negligence, failure of performance, breach, failure to petition within the prescribed time, or default, including patent infringements, on the part of said CONTRACTOR, his agents or employees, in the execution or performance of said Contract; and

4. Performs the guarantee of all work and materials furnished under the contract for the time specified in the contract, then this obligation shall be void; otherwise, to remain in full force and effect for the term of said Contract.

AND, the said Surety for value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract Documents, or to the work to be performed, or materials to be furnished thereunder shall affect said obligation of said Surety on this Bond, and the said Surety does hereby waive notice of any such changes, extension of time, alterations, or additions of the terms of the Contract Documents, or to the work.

Any action instituted by a claimant under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2), Florida Statutes.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument this day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

By: _____

(SEAL)

ATTEST

SURETY

By: _____

(SEAL)

ATTEST

PAYMENT BOND

BOND NO.
AMOUNT: \$

KNOW ALL MEN BY THESE PRESENTS, that in accordance with Florida Statutes Section 255.05, _____, with offices at _____, hereinafter called the CONTRACTOR (Principal), and

_____ with offices at _____ a corporate duly organized and existing under and by virtue of the laws of the State of _____ hereinafter called the SURETY, and authorized to transact business within the State of Florida, as SURETY, are held and firmly bound unto **CITY OF KEY WEST**, represented by its _____, hereinafter called the CITY (Obligee), in the sum of:

_____ (\$ _____), lawful money of the United States of America, for the payment of which, well and truly be made to the CITY, the CONTRACTOR and the SURETY bind themselves and each of their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents as follows:

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH THAT:

WHEREAS, the CONTRACTOR has executed and entered into a certain Contract for _____ attached hereto, with the CITY, dated _____, 20_____, to furnish at his own cost, charges, and expense the necessary materials, equipment, and/or labor in strict and express accordance with said Contract and the plans, drawings (if any), and specifications prepared by the CITY, all of which is made a part of said Contract by certain terms and conditions in said Contract more particularly mentioned, which Contract, consisting of the various Contract Documents specifically mentioned herein and relative hereto, is made a part of this Bond as fully and completely as if said Contract Documents were set forth herein.

NOW THEREFORE, the conditions of this obligation are such that if the above bounden CONTRACTOR shall in all respects comply with the terms and conditions of said Contract and his obligation thereunder, including the Contract Documents (which include the plans, drawings, specifications, and conditions prepared by the CITY, invitation to bid, instructions to bidders, the CONTRACTOR’S bid as accepted by the CITY, the bid and contract and payment bonds, and all addenda, if any, issued prior to the opening of bids), and further that if said CONTRACTOR shall promptly make payments to all persons supplying materials, equipment, and/or labor, used directly or indirectly by said CONTRACTOR or subcontractors in the prosecution of the work for said contract in accordance with Florida Statutes, Section 255.05 or Section 713.23, then this obligation shall be void;

otherwise to remain in full force and effect for the term of said contract, including and all guarantee periods as specifically mentioned in said Contract Documents.

AND, the said SURETY for value received, hereby stipulates and agrees that no change involving any extension of time, or addition to the terms of the Contract or to the work to be performed, or materials to be furnished thereunder, or in the Contract Documents and specifications accompanying the said contract shall affect said obligation of said SURETY on this Bond, and the said SURETY does hereby waive notice of any such changes, extension of time, alternations, or additions of the terms of the Contract, or to the work, to the Contract Documents, or to the specifications.

Claimant shall give written notice to the CONTRACTOR and the SURETY as required by Section 255.05 or Section 713.23, Florida Statutes. Any action instituted against the CONTRACTOR or SURETY under this bond for payment must be in accordance with the notice and time limitation provisions in Section 255.05(2) or Section 713.23, Florida Statutes.

IN WITNESS WHEREOF, the above parties bounded together have executed this instrument this day of _____, 20____, the name and corporate seal of each corporate party being hereto affixed and those presents duly signed by its undersigned representative, pursuant to authority of its governing body.

CONTRACTOR

By: _____

(SEAL)

ATTEST

SURETY

By: _____

(SEAL)

ATTEST

LICENSE REQUIREMENT AND COST

License required for this Project. Contractor must be general contractor or building contractor.

Cost Not To Exceed \$400.00.

Electrical Contractor license shall be required for this Project.

Cost Not to Exceed \$400.00.

CITY OF KEY WEST BUSINESS LICENSE TAX RECEIPT

A City of Key West Business License Tax Receipt is required for this project. Contractor must be general contractor, building contractor or engineering contractor. Cost not to exceed \$310.00.

A City of Key West Business License Tax Receipt is required for sub-contracting electrician, landscape contractor, engineering services, and professional surveying. Cost for each individual tax receipt shall be \$310.00 or less.

City of Key West Business License Tax Receipt may be found on the city website.

<http://www.keywestcity.com/egov/docs/1162843921181.htm>



THE CITY OF KEY WEST

Licensing Division

P.O. Box 1409, Key West, FL 33041
305.809.3955 305.809.3978 (FAX)

REQUIREMENTS FOR STATE CERTIFIED CONTRACTOR REGISTERING TO WORK IN KEY WEST LESS THAN 30 DAYS PER FISCAL YEAR

1. NEED STATE OF FLORIDA CERTIFIED CONTRACTOR LICENSE.
2. BUSINESS LICENSE TAX FROM BASE LOCATION.
3. LIABILITY INSURANCE AND WORKER'S COMPENSATION (WITH THE CITY OF KEY WEST CERTIFICATE HOLDERS) SET AT STATE STUTUTE REQUIREMENTS.
4. FEDERAL I.D. NUMBER /SOCIAL SERCURITY (IF NOT INCORPORATED).
5. LETTER OF INTENT STATING THE FOLLOWING:

BUSINESS NAME

JOB SITE

DAYS INTENDING ON WORKING IN THE CITY

PLEASE FAX DOCUMENTS TO THE TELEPHONE NUMBER LISTED BELOW, OR MAIL TO CAROLYN WALKER / KIM PITA, CITY OF KEY WEST LICENSE DIVISION, P.O. BOX 1409, KEY WEST, FLORIDA 33041.



City of Key West

P.O. Box 1409

Key West, FL 33041

Notice of Award

Date

Project Number: BV-1003

Owner: City of Key West
Company: City of Key West
Address: Office of the City Clerk
Address: City of Key West P.O. Box 1409
Key West, FL 33041-1409

Project Name: NELSON ENGLISH/WILLIE WARD RENOVATIONS/ENHANCEMENTS PROJECT

Dear:

At a meeting of the City of Key West Commission held on _____, 20____. **COMPANY NAME** was awarded the contract for the **NELSON ENGLISH/WILLIE WARD RENOVATIONS/ENHANCEMENTS PROJECT**. The total Contract amount shall not exceed \$ _____.

*Enclosed please find three copies of the Contract Documents for your execution. Please complete the necessary pages, affixing signatures, notary and / or corporate seals, etc. where necessary and return to this office by **DATE**. Also, you need to be mobilized on **DATE**, and remit a bill to the City of Key West by **DATE**.*

The Certificate of Insurance must be attached to the documents; one original and five (5) copies are acceptable.

Powers – of – Attorney must be submitted in each bond document, an original and five (5) copies are permissible.

A copy of your City of Key West Occupational License must be attached.

Sincerely,

Doug Bradshaw.
Senior Project Manager

cc: Cheri Smith, City Clerk
Project File

CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT: **NELSON ENGLISH/WILLIE WARD RENOVATIONS/ENHANCEMENTS**
PROJECT NO. BV-1003

DATE OF ISSUANCE _____

OWNER: **CITY OF KEY WEST**

OWNER'S CONTRACT NO. BV-1003

CONTRACTOR:

ARCHITECT: **Michael B. Ingram, R.A.**
mbi / k2m Architecture, Inc.

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

TO: _____
OWNER

And To _____
CONTRACTOR

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER, CONTRACTOR, AND ENGINEER and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does no alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within ____ days of the above date of Substantial Completion.

CERTIFICATE OF FINAL COMPLETION

PROJECT: **NELSON ENGLISH/WILLIE WARD RENOVATIONS/ENHANCEMENTS**
PROJECT NO. BV-1003

Date of Issuance: _____

Owner: CITY OF KEY WEST

CONTRACTOR:

ARCHITECT: Michael B. Ingram, R.A.
mbi / k2m Architecture, Inc.

This Certificate of Completion applies to all Work under the Contract Documents.

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER and ENGINEER, and that Work is hereby declared to be complete in accordance with the Contract Documents on

DATE OF COMPLETION

Executed by ENGINEER on _____, (Date)

ENGINEER

By: _____
(Authorized Signature)

CONTRACTOR accepts this Certificate of Completion on _____, (Date)

CONTRACTOR

By: _____
(Authorized Signature)

OWNER accepts this Certificate of Completion on _____, (Date)

CITY OF KEY WEST

By: _____
(Authorized Signature)

NOTICE TO PROCEED

DATE:

TO: _____

PROJECT: **NELSON ENGLISH/WILLIE WARD RENOVATIONS/ENHANCEMENTS**
PROJECT NO. BV-1003

You are notified that the Contract time under the above project will commence to run on the _____ day of _____, 20____. By that date, you are to start performing your obligations under the Contract Documents. In accordance with the Agreement, the dates of Substantial Completion and Final Completion are _____, 20____ and _____, 20____.

City of Key West, Florida

By _____
(AUTHORIZE SIGNATURE)

(TITLE)

Copy to _____
(Use Certified Mail,
Return Receipt Requested)

cc: City Clerk
Doug Bradshaw, Engineering
Project File

PAYMENT APPLICATION AND CERTIFICATE

Date: _____

Sheet: ___ of ___

Application No. _____

Period From: _____ To: _____ 20____

Project: _____ Project No: _____

Contractor: _____

- 1. Original Contract Sum \$ _____
- 2. Contract Modifications Approved in Previous Applications:
Additions \$ _____ Deductions \$ _____
- 3. Contract Modifications Approved this Period (List Contract Modifications Nos. _____)
Additions \$ _____ Deductions \$ _____
- 4. Net Change by Contract Modifications (Sum of Lines 2 and 3) \$ _____
- 5. Revised Contract Amount (Sum of Lines 1 and 4) \$ _____
- 6. Total Value of Work to Date (Estimate Attached) \$ _____
- 7. Percent Project Complete (Line 6 ÷ Line 5) x 100 = \$ _____
- 8. Total Materials on Hand (Listing Attached) \$ _____
- 9. Subtotal – Work Completed and Stored (Sum of Lines 6 and 8) \$ _____
- 10. Total Retainage (_____ % x Line 9) \$ _____
- 11. Total Earned to Date, Less Retainage (Line 9 less Line 10) \$ _____
- 12. Less Previous Certificates for Payment (Item 11 from Previous Application) \$ _____
- 13. Current Payment Due (Line 11 less Line 12) \$ _____

The undersigned Contractor certifies that the work covered by this Application for Payment has been completed in accordance with the Contract Documents, that the current payment shown herein is now due, and that title for all Work, Materials, and Equipment covered in this Application will pass to the Owner free and clear of all liens at the time of payment.

Contractor By _____ Date

I hereby acknowledge that the material and labor involved on the above estimate is correct to the best of my knowledge, information, and belief, and payment on same is due Contractor.

City of Key West Project Manager Date

CERTIFICATE OF FINAL PAYMENT

Date: _____
Page: _____ of _____

Payment Application No. _____

Period From: _____ to _____

Project: _____ Project No. _____

Contractor: _____

I Hereby Acknowledge that this contract has been completed in substantial compliance with the items of the agreement, Specifications and Plans. I, therefore, recommend acceptance of the work and processing of this final estimate as showing the total amount of money due to Contractor in compliance with the terms of the Contract.

Project Manager

Date

Owner

By: _____

Date

Contractor: _____

Address: _____

With the acceptance of this final payment, we, the Contractor, release the owner and the Engineer and their agents, from all claims and liability to us, the Contractor, for all things done or furnished in connection with the Work, and every act of the Owner and others relating to, or arising, out of the Work.

Signature

Date

Title

PART 3

CONDITIONS OF THE CONTRACT

GENERAL CONDITIONS
CONTENTS

GENERAL CONDITIONS

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* * * * *

DEFINITIONS

Whenever in the Contract Documents the following terms are used, the intent and meaning shall be interpreted as follows:

1. AS APPROVED

The words “as approved”, unless otherwise qualified, shall be understood to be followed by the words “by the ENGINEER for conformance with the Contract Document”.

2. AS SHOWN, AND AS INDICATED

The words “as shown” and “as Indicated” shall be understood to be followed by the words “on the Drawings”.

3. BIDDER

The person or persons, partnership, firm, or corporation submitting a Bid for the work contemplated.

4. CONTRACT DOCUMENTS

The “Contract Documents” consist of the Bidding Requirements, Contract Forms, Conditions of the Contract, Specifications, Drawings, all modifications thereof incorporated into the Documents before their execution, Change Orders, and all other requirements incorporated by specific reference thereto. These form the Contract.

5. CONTRACTOR

The person or persons, partnership, firm, or corporation who enters into the Contract awarded him by the OWNER.

6. CONTRACT COMPLETION

The “Contract Completion” is the date the OWNER accepts the entire work as being in compliance with the Contract Documents, or formally waives nonconforming work to extent of nonconformity, and issues the final payment in accordance with the requirements set forth in Article, “Final Payment” of these General Conditions.

7. DAYS

Unless otherwise specifically stated, the term “days” will be understood to mean calendar days. Business day or working day means any day other than Saturday, Sunday, or legal holiday.

8. DRAWINGS

The term “Drawings” refers to the official Drawings, profiles, cross sections, elevations, details, and other working drawings and supplementary drawings, or reproductions thereof, signed by the ENGINEER, which shows the location, character, dimensions, and details of the work to be performed. Drawings may either be bound in the same book as the balance of the Contract Documents, or bound in separate sets, and are a part of the Contract Documents, regardless of the method of binding.

9. ENGINEER

The person or organization identified as such in the Contract Documents. The Term “ENGINEER” means ENGINEER or his authorized representative.

10. NOTICE

The term “notice” or the requirement to notify, as used in the Contract Documents or applicable state or federal statutes, shall signify a written communication delivered in person or by registered mail to the individual, or to a member of the firm, or to an officer of the corporation for whom it is intended. Certified or registered mail shall be addressed to the last business address known to him who gives the notice.

11. OR EQUAL

The term “or equal” shall be understood to indicate that the “equal” product is equivalent to or better than the product named in function, performance, reliability, quality, and general configuration. Determination of equality in reference to the project design requirements will be made by the ENGINEER. Such equal products shall not be purchased or installed by the CONTRACTOR without written authorization.

12. OWNER

The person, organization, or public body identified as such in the Contract Documents.

13. PLANS (See Drawings)

14. SPECIFICATIONS

The term “Specifications” refers to those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the work and certain

administrative details applicable thereto. Where standard specifications, such as those of ASTM, AASHTO, etc., have been referred to, the applicable portions of such standard specifications shall become a part of these Contract Documents. If referenced specifications conflict with specifications contained herein, the requirements contained herein shall prevail.

15. NOTICE TO PROCEED

A written notices given by the OWNER to the CONTRACTOR (with a copy to the ENGINEER) fixing the date on which the Contract time will commence to run and on which the CONTRACTOR shall start to perform his obligation under the Contract Documents. The Notice to Proceed will be given within 30 days following the execution of the Contract by the OWNER.

16. SUBSTANTIAL COMPLETION

“Substantial Completion” shall be that degree of completion of the Project or a defined portion of the Project, as evidenced by the ENGINEER’s written notice of Substantial Completion, sufficient to provide the OWNER, at his discretion, the full-time use of the Project or defined portion of the Project for the purposes for which it was intended. “Substantial Completion” of an operating facility shall be that degree of completion that has provided a minimum of 7 continuous days of successful, trouble-free, operation, which period shall begin after all performance and acceptance testing has been successfully demonstrated to the ENGINEER. All equipment contained in the work, plus all other components necessary to enable the OWNER to operate the facility in a manner that was intended, shall be complete on the substantial completion date.

17. WORK

The word “work” within these Contract Documents shall include all material, labor, tools, and all appliances, machinery, transportation, and appurtenances necessary to perform and complete the Contract, and such additional items not specifically indicated or described which can be reasonably inferred as belonging to the item described or indicated and as required by good practice to provide a complete and satisfactory system or structure. As used herein, “provide” shall be understood to mean “furnish and install, complete in-place “.

CONTRACT DOCUMENTS

18. INTENT OF CONTRACT DOCUMENTS

The Contract Documents are complementary, and what is
BV1003

called for by one shall be as binding as if called for by all. The intent of the Documents is to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any work, materials, or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe work, materials, or equipment, such words shall be interpreted in accordance with that meaning.

Reference to standard specifications, manuals, or codes of any technical society, organization or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code or laws or regulations in effect on the first published date of the Invitation to Bid, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR, or ENGINEER, or any of their consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to ENGINEER, or any ENGINEER’s consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the work or any duty or authority to undertake responsibility contrary to the provisions of Article LIMITATIONS ON ENGINEER’S RESPONSIBILITIES.

19. DISCREPANCIES AND OMISSIONS

Any discrepancies or omissions found in the Contract Documents shall be reported to the ENGINEER immediately. The ENGINEER will clarify discrepancies or omissions, in writing, within a reasonable time.

In resolving inconsistencies among two or more sections of the Contract Documents, precedence shall be given in the following order:

- A. CONTRACT
- B. BID
- C. SUPPLEMENTARY CONDITIONS
- D. INVITATION TO BID
- E. INSTRUCTIONS TO BIDDERS
- F. GENERAL CONDITIONS
- G. SPECIFICATIONS
- H. DRAWINGS

Addenda shall take precedence over all sections referenced therein. Figure dimensions on Drawings shall take precedence over scale dimensions. Detailed Drawings shall take

English/Ward Renovations/Enhancements
GENERAL CONDITIONS

precedence over general Drawings.

20. CHANGES IN THE WORK

The OWNER, without notice to the Sureties and without invalidating the Contract, may order changes in the work within the general scope of the Contract by altering, adding to, or deducting from the work, the Contract being adjusted accordingly. All such work shall be executed under the conditions of the original Contract, except as specifically adjusted at the time of ordering such change.

In giving instructions, the ENGINEER may order minor changes in the work not involving extra cost and not inconsistent with the purposes of the Project, but otherwise, except in an emergency endangering life and property, additions or deductions from the work shall be performed only in pursuance of an approved Change Order from the OWNER, countersigned by the ENGINEER.

If the work is reduced by alterations, such action shall not constitute a claim for damages based on loss of anticipated profits.

21. EXAMINATION AND VERIFICATION OF CONTRACT DOCUMENTS

The CONTRACTOR shall thoroughly examine and become familiar with all of the various parts of these Contract Documents and determine the nature and location of the work, the general and local conditions, and all other matters, which can in any way affect the work under this Contract. Failure to make an examination necessary for this determination shall not release the CONTRACTOR from the obligations of this Contract. No verbal agreement or conversation with any officer, agent, or employee of the OWNER or with the ENGINEER either before or after the execution of this Contract shall affect or modify any of the terms or obligations herein contained.

22. DOCUMENTS TO BE KEPT ON THE JOBSITE

The CONTRACTOR shall keep one copy of the Contract Documents on the job- site, in good order, available to the ENGINEER and to his representatives.

The CONTRACTOR shall maintain on a daily basis at the jobsite, and make available to the ENGINEER on request, one current record set of the Drawings which have been accurately marked to indicate all modifications in the completed work that differ from the design information shown on the Drawings. Upon Substantial completion of the work, the

CONTRACTOR shall give the ENGINEER one complete set of these marked up record Drawings.

23. ADDITIONAL CONTRACT DOCUMENTS

Copies of Contract Documents or Drawings may be obtained on request from the ENGINEER and by paying the actual cost of reproducing the Contract Documents or Drawings.

24. OWNERSHIP OF CONTRACT DOCUMENTS

All portions of the Contract Documents, and copies thereof furnished by the ENGINEER are instruments of service for this Project. They are not to be used on other work and are to be returned to the ENGINEER on request at the completion of the work. Any reuse of these materials without specific written verification or adaptation by the ENGINEER will be at the risk of the user and without liability or legal expense to the ENGINEER. Such user shall hold the ENGINEER harmless from any and all damages, including reasonable attorneys' fees, from any and all claims arising from any such reuse. Any such verification and adaptation shall entitle the ENGINEER to further compensation at rates to be agreed upon by the user and the ENGINEER.

THE ENGINEER

25. AUTHORITY OF THE ENGINEER

The ENGINEER will be the OWNER's representative during the construction period. His authority and responsibility will be limited to the provisions set forth in these Contract Documents. The ENGINEER will have the Authority to reject work that does not conform to the Contract Documents. However, neither the ENGINEER's authority to act under this provision, nor any decision made by him in good faith either to exercise or not to exercise such authority, shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any SUBCONTRACTOR, their respective Sureties, any of their agents or employees, or any other person performing any of the work.

26. DUTIES AND RESPONSIBILITIES OF THE ENGINEER

The ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the work and to determine, in general, if the work is proceeding in accordance with the intent of the Contract Documents. He will not make comprehensive or continuous review or observation to check quality or quantity of the work, and he will not be responsible for construction means, methods, techniques, sequences, or procedures, or for

safety precautions and programs in connection with the work. Visits and observations made by the ENGINEER shall not relieve the CONTRACTOR of his obligation to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work, and to provide adequate safety precautions, in conformance with the intent of the Contract.

The ENGINEER will make recommendations to the OWNER, in writing, on all claims of the OWNER or the CONTRACTOR arising from interpretation or execution of the Contract Documents. Such recommendations will be of factual and/or technical nature, and will not include the legal interpretation of the Contract Documents. Any necessary legal interpretation of the Contract Document will be made by the OWNER. Such recommendation shall be necessary before the CONTRACTOR can receive additional money under the terms of the Contract. Changes in work ordered by the ENGINEER shall be made in compliance with Article CHANGES IN THE WORK.

One or more project representatives may be assigned to observe the work. It is understood that such project representatives shall have the authority to issue notice of nonconformance and make decisions within the limitations of the authority of the ENGINEER. The CONTRACTOR shall furnish all reasonable assistance required by the ENGINEER or project representatives for proper observation of the work. The above-mentioned project representatives shall not relieve the CONTRACTOR of his obligations to conduct comprehensive inspections of the work and to furnish materials and perform acceptable work, and to provide adequate safety precautions, in conformance with the intent of the Contract.

27. LIMITATIONS ON ENGINEER'S RESPONSIBILITIES

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

ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any SUBCONTRACTOR, any supplier, or of any other person or organization performing or furnishing any of the work.

Whenever in the Contract Documents the terms "as ordered", "as directed", "as required", "as allowed", "as approved", or terms of like effect or import are used, or the adjectives

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

28. REJECTED WORK

Any defective work or nonconforming materials or equipment that may be discovered at any time prior to expiration of the warranty period shall be removed and replaced by work which shall conform to the provisions of the Contract Documents. Any material condemned or rejected shall be removed at once from the project site.

Failure on the part of the ENGINEER to condemn or reject bad or inferior work or to note nonconforming materials or equipment on CONTRACTOR submittals shall not be construed to imply acceptance of such work. The OWNER shall reserve and retain all of its rights and remedies at law against the CONTRACTOR and its Surety for correction of any and all latent defects discovered after the guarantee period.

29. LINES AND GRADES

Lines and grades shall be established as provided in the supplementary conditions. All stakes, marks, and other reference information shall be carefully preserved by the CONTRACTOR, and in case of their careless or unnecessary destruction or removal by him or his employees, such stakes, marks, and other information shall be replaced at the CONTRACTOR's expense.

30. SUBMITTALS

After checking and verifying all field measurements and after complying with applicable procedures specified in Division I, GENERAL REQUIREMENTS, CONTRACTOR shall submit to ENGINEER, in accordance with the schedule for submittals for review, shop drawings, electrical diagrams, and catalog cuts for fabricated items and manufactured items (including mechanical and electrical equipment), which shall bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submittal. All submittals shall be identified as ENGINEER may require. The

data shown shall be complete with respect to quantities, dimensions specified, performance and design criteria, materials, and similar data to enable ENGINEER to review the information. CONTRACTOR shall also submit to ENGINEER for review, with such promptness as to cause no delay in work, all samples required by the Contract Documents. All samples shall have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR's responsibilities under the Contract Documents with respect to the review of the submission and shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which intended.

Before submission of each submittal, CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated each submittal with other submittals and with the requirements of the work and the Contract Documents.

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

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

ENGINEER's review of submittals shall not relieve CONTRACTOR from the responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission and ENGINEER has given written approval of each such variation

by a specific written notation thereof incorporated therein or accompanying the shop drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the shop drawings or from responsibility for having complied with the provisions herein.

Where a shop drawing or sample is required by the specifications, any related work performed prior to ENGINEER's review and approval of the pertinent submission shall be at the sole expense and responsibility of the CONTRACTOR.

31. DETAIL DRAWINGS AND INSTRUCTIONS

The ENGINEER will furnish, with reasonable promptness, additional instructions by means of Drawings or otherwise, if, in the ENGINEER's opinion, such are required for the proper execution of the work. All such Drawings and instructions will be consistent with the Contract Documents, true developments thereof, and reasonably inferable there from.

THE CONTRACTOR AND HIS EMPLOYEES

32. CONTRACTOR, AN INDEPENDENT AGENT

The CONTRACTOR shall independently perform all work under this Contract and shall not be considered as an agent of the OWNER or of the ENGINEER, nor shall the CONTRACTOR's SUBCONTRACTOR's or employees be subagents of the OWNER or of the ENGINEER.

32. ASSIGNMENT OF CONTRACT

Assignment of any part or the whole of this Contract shall be subject to review and approval of the City Commission.

33. SUBCONTRACTING

Unless modified in the Supplementary Conditions, within 10 days after the execution of the Contract, the CONTRACTOR shall submit to the ENGINEER the names of all SUBCONTRACTORS proposed for the work, including the names of any SUBCONTRACTORS that were submitted with the Bid. The CONTRACTOR shall not employ any SUBCONTRACTORS to which the OWNER may object to as lacking capability to properly perform work of the type and scope anticipated.

The CONTRACTOR is as fully responsible to the OWNER for the acts and omissions of his SUBCONTRACTORS and of persons either directly or indirectly employed by them as he is

for the acts and omissions of persons directly employed by him.

Nothing contained in the Contract Documents shall create any contractual relationship between any SUBCONTRACTOR and the OWNER or ENGINEER.

34. INSURANCE AND LIABILITY

A. GENERAL

The CONTRACTOR shall provide (from insurance companies acceptable to the OWNER) the insurance coverage designated hereinafter and pay all costs.

Before commencing work under this Contract, the CONTRACTOR shall furnish the OWNER with certificates of insurance specified herein showing the type, amount class of operations covered, effective dates, and date of expiration of policies, and containing substantially the following statement:

“The insurance covered by this certificate shall not be canceled or materially altered, except after 30 days’ written notice has been received by the OWNER.”

In case of the breach of any provision of this Article, the OWNER, at his option, may take out and maintain, at the expense of the CONTRACTOR, such insurance as the OWNER may deem proper and may deduct the cost of such insurance from any monies which may be due or become due the CONTRACTOR under this Contract.

B. CONTRACTOR AND SUBCONTRACTOR INSURANCE

The CONTRACTOR shall not commence work under this Contract until he has obtained all the insurance required hereunder and such insurance has been reviewed by the OWNER, nor shall the CONTRACTOR allow any SUBCONTRACTOR to commence work on his subcontract until insurance specified below has been obtained. Review of the insurance by the OWNER shall not relieve or decrease the liability of the CONTRACTOR hereunder.

C. COMPENSATION AND EMPLOYER’S LIABILITY INSURANCE

The CONTRACTOR shall maintain during the life of this Contract the statutory amount of Workmen's Compensation Insurance, in addition, Employer's Liability Insurance in an amount as specified in the Supplementary Conditions, for each occurrence, for all of his employees to be engaged in work on

the project under this Contract. In case any such work is subcontracted, the Contractor shall require the Subcontractor to provide similar Worker's Compensation and Employer's Liability Insurance for all of the Subcontractor's employees to be engaged in such work.

D. GENERAL LIABILITY INSURANCE (INCLUDING AUTOMOBILE)

The CONTRACTOR shall maintain during the life of this Contract such general liability, completed operations and products liability, and automobile liability insurance as will provide coverage for claims for damages for personal injury, including accidental death, as well as for claims for property damage, which may arise directly or indirectly from performance of the work under this Contract. The general liability policy shall include contractual liability assumed by the CONTRACTOR under Article **INDEMNITY**. Coverage for property damage shall be on a “broad form” basis with no exclusions for “X, C & U”. The amount of insurance to be provided shall be as specified in the Supplementary Conditions.

In the event any work under this Contract is performed by a SUBCONTRACTOR, the CONTRACTOR shall be responsible for any liability directly or indirectly arising out of the work performed by the SUBCONTRACTOR, to the extent such liability is not covered by the SUBCONTRACTOR’s insurance.

The OWNER and ENGINEER, their officers, agents, and employees shall be named as Additional Insured’s on the CONTRACTOR’s and any SUBCONTRACTOR’s general liability and automobile liability insurance policies for any claims arising out of work performed under this Contract.

E. BUILDERS RISK ALL RISK INSURANCE

Unless otherwise modified in the Supplementary Conditions, the CONTRACTOR shall secure and maintain during the life of this Contract, Builders Risk All Risk Insurance coverage in an amount equal to the full value of the facilities/ work performed under this Contract/ construction. Such insurance shall include coverage for earthquake, landslide, flood, collapse, loss due to the results of faulty workmanship or design, and all other normally covered risks, and shall provide for losses to be paid to the CONTRACTOR, OWNER, and ENGINEER as their interests may appear.

The OWNER and ENGINEER, their officers, agents, and employees shall be named as additional insured’s on the CONTRACTOR’s and any SUBCONTRACTOR’s Builders Risk All Risk insurance policies for any claims arising out of

work performed under this Contract.

This insurance shall include a waiver of subrogation as to the ENGINEER, the OWNER, the CONTRACTOR, and their respective officers, agents, employees and SUBCONTRACTORS.

F. NO PERSONAL LIABILITY OF PUBLIC OFFICIALS

In carrying out any of the provisions hereof in exercising any authority granted by the Contract, there will be no personal liability upon any public official.

35. INDEMNITY

To the maximum extent permitted by law, the Contractor shall indemnify and defend the Owner and the Engineer, and their officers, employees, agents, and sub- consultants, from all claims and losses, including attorney's fees and litigation costs arising out of property losses or health, safety, personal injury, or death claims by the Contractor, its subcontractors of any tier, and their employees, agents, or invitees regardless of the fault, breach of Contract, or negligence of the Owner or Engineer, excepting only such claims or losses that have been adjudicated to have been caused solely by the negligence of the Owner or the Engineer and regardless of whether or not the Contractor is or can be named a party in a litigation.

36. EXCLUSION OF CONTRACTOR CLAIMS

In performing its obligations, the ENGINEER and its consultants may cause expense for the CONTRACTOR or its SUBCONTRACTORS and equipment or material suppliers. However, those parties and their sureties shall maintain no direct action against the ENGINEER, its officers, employees, agents, and consultants for any claim arising out of, in connection with, or resulting from the engineering services performed or required to be performed.

37. TAXES AND CHARGES

The CONTRACTOR shall withhold and pay any and all sales and use taxes and all withholding taxes, whether State or Federal, and pay all Social Security charges and also all State Unemployment Compensation charges, and pay or cause to be withheld, as the case may be, any and all taxes, charges, or fees or sums whatsoever, which are now or may hereafter be required to be paid or withheld under any laws.

38. REQUIREMENTS OF STATE LAW FOR PUBLIC WORKS PROJECTS

When the Contract Documents concern public works of the state or any county, municipality, or political subdivision created by its laws, the applicable statutes shall apply. All parties to this Contract shall determine the contents of all applicable statutes and comply with their provisions throughout the performance of the Contract.

39. CODES, ORDINANCES, PERMITS AND LICENSES

The CONTRACTOR shall keep himself fully informed of all local codes and ordinances, as well as state and federal laws, which in any manner affect the work herein specified. The CONTRACTOR shall at all times comply with said codes and ordinances, laws, and regulations, and protect and indemnify the OWNER, the ENGINEER and their respective employees, and its officers and agents against any claim or liability arising from or based on the violation of any such laws, ordinances, or regulations. All permits, licenses and inspection fees necessary for prosecution and completion of the work shall be secured and paid for by the CONTRACTOR, unless otherwise specified.

40. SUPERINTENDENCE

The CONTRACTOR shall keep at the project site, competent supervisory personnel. The CONTRACTOR shall designate, in writing, before starting work, a project superintendent who shall be an employee of the CONTRACTOR and shall have complete authority to represent and to act for the CONTRACTOR. ENGINEER shall be notified in writing prior to any change in superintendent assignment. The CONTRACTOR shall give efficient supervision to the work, using his best skill and attention. The CONTRACTOR shall be solely responsible for all construction means, methods, techniques, and procedures, and for providing adequate safety precautions and coordinating all portions of the work under the Contract. It is specifically understood and agreed that the ENGINEER, its employees and agents, shall not have control or charge of and shall not be responsible for the construction means, methods, techniques, procedures, or for providing adequate safety precautions in connection with the work under Contract.

41. RECEPTION OF ENGINEER'S COMMUNICATIONS

The superintendent shall receive for the CONTRACTOR all communications from the ENGINEER. Communications of major importance will be confirmed in writing upon request from the CONTRACTOR.

The ENGINEER may schedule project meetings for the purposes of discussing and resolving matters concerning the various elements of the work. Time and place for these meetings and the names of persons required to be present shall be as determined by the ENGINEER. CONTRACTOR shall comply with these attendance requirements and shall also require his SUBCONTRACTORS to comply.

42. SAFETY

The CONTRACTOR shall be solely and completely responsible for conditions of the jobsite, including safety of all persons (including employees) and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Safety provisions shall conform to U.S. Department of Labor (OSHA), and all other applicable federal, state, county, and local laws, ordinances, codes, and regulations. Where any of these are in conflict, the more stringent requirement shall be followed. The CONTRACTOR's failure to thoroughly familiarize himself with the aforementioned safety provisions shall not relieve him from compliance with the obligations and penalties set forth therein.

The CONTRACTOR shall develop and maintain for the duration of this Contract, a safety program that will effectively incorporate and implement all required safety provisions. The CONTRACTOR shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety program.

The duty of the ENGINEER to conduct construction review of the work does not include review or approval of the adequacy of the CONTRACTOR's safety program, safety supervisor, or any safety measures taken in, on, or near the construction site.

The CONTRACTOR, as a part of his safety program, shall maintain at his office or other well-known place at the jobsite, safety equipment applicable to the work as prescribed by the aforementioned authorities, all articles necessary for giving first-aid to the injured, and shall establish the procedure for the immediate removal to a hospital or a doctor's care of persons (including employees) who may be injured on the jobsite.

If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to both the ENGINEER and the OWNER. In addition, the CONTRACTOR must promptly report in writing to the ENGINEER all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses.

If a claim is made by anyone against the CONTRACTOR or BV1003

any SUBCONTRACTOR on account of any accident, the CONTRACTOR shall promptly report the facts in writing to the ENGINEER, giving full details of the claim.

43. PROTECTION OF WORK AND PROPERTY

The CONTRACTOR shall at all times safely guard and protect from damage the OWNER's property, adjacent property, and his own work from injury or loss in connection with this Contract. All facilities required for protection by federal, state, or municipal laws and regulations and local conditions must be provided and maintained.

The CONTRACTOR shall protect his work and materials from damage due to the nature of the work, the elements, carelessness of other CONTRACTORS, or from any cause whatever until the completion and acceptance of the work. All loss or damages arising out of the nature of the work to be done under these Contract Documents, or from any unforeseen obstruction or defects which may be encountered in the prosecution of the work, or from the action of the elements, shall be sustained by the CONTRACTOR.

44. RESPONSIBILITY OF CONTRACTOR TO ACT IN AN EMERGENCY

In case of an emergency which threatens loss or injury of property, and/or safety of life, the CONTRACTOR shall act, without previous instructions from the OWNER or ENGINEER, as the situation may warrant. The CONTRACTOR shall notify the ENGINEER thereof immediately thereafter. Any claim for compensation by the CONTRACTOR, together with substantiating documents in regard to expense, shall be submitted to the OWNER through the ENGINEER and the amount of compensation shall be determined by agreement.

45. MATERIALS AND APPLIANCES

Unless otherwise stipulated, the CONTRACTOR shall provide and pay for all materials, labor, water, tools, equipment, heat, light, fuel, power, transportation, construction equipment and machinery, appliances, telephone, sanitary facilities, temporary facilities and other facilities and incidentals necessary for the execution and completion of the work.

Unless otherwise specified, all materials shall be new, and both workmanship and materials shall be of good quality. The CONTRACTOR shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

In selecting and/or approving equipment for installation in the Project, the OWNER and ENGINEER assume no

responsibility for injury or claims resulting from failure of the equipment to comply with applicable federal, state, and local safety codes or requirements, or the safety requirements of a recognized agency, or failure due to faulty design concepts, or defective workmanship and materials.

46. CONTRACTORS' AND MANUFACTURERS' COMPLIANCE WITH STATE SAFETY, OSHA, AND OTHER CODE REQUIREMENTS

The completed work shall include all necessary permanent safety devices, such as machinery guards and similar ordinary safety items required by the state and federal (OSHA) industrial authorities and applicable local and national codes. Further, any features of the work subject to such safety regulations shall be fabricated, furnished, and installed (including OWNER-furnished equipment) in compliance with these requirements. CONTRACTORS and manufacturers of equipment shall be held responsible for compliance with the requirements included herein. CONTRACTORS shall notify all equipment suppliers and SUBCONTRACTORS of the provisions of this Article.

47. SUBSTITUTION OF MATERIALS

Except for OWNER-selected equipment items, and items where no substitution is clearly specified, whenever any material, article, device, product, fixture, form, type of construction, or process is indicated or specified by patent or proprietary name, by name of manufacturer, or by catalog number, such specifications shall be deemed to be used for the purpose of establishing a standard of quality and facilitating the description of the material or process desired. This procedure is not to be construed as eliminating from competition other products of equal or better quality by other manufacturers where fully suitable in design, and shall be deemed to be followed by the words "or equal". The CONTRACTOR may, in such cases, submit complete data to the ENGINEER for consideration of another material, type, or process that shall be substantially equal in every respect to that so indicated or specified. Substitute materials shall not be used unless approved in writing. The ENGINEER will be the sole judge of the substituted article or material.

48. TESTS, SAMPLES, AND OBSERVATIONS

The CONTRACTOR shall furnish, without extra charge, the necessary test pieces and samples, including facilities and labor for obtaining the same, as requested by the ENGINEER. When required, the CONTRACTOR shall furnish certificates of tests of materials and equipment made at the point of manufacture by a recognized testing laboratory.

The OWNER, ENGINEER, and authorized government agents, and their representatives shall at all times be provided safe access to the work wherever it is in preparation or progress, and the CONTRACTOR shall provide facilities for such access and for observations, including maintenance of temporary and permanent access.

If the Specifications, laws, ordinances, or any public authority require any work, to be specially tested or approved, the CONTRACTOR shall give timely notice of its readiness for observations. If any work should be covered up without approval or consent of the ENGINEER, it shall, if required by the ENGINEER, be uncovered for examination at the CONTRACTOR's expense.

Reexamination of questioned work may be ordered by the ENGINEER, and, if so ordered, the work shall be uncovered by the CONTRACTOR. If such work is found to be in accordance with the Contract Documents, the OWNER will pay the cost of uncovering, exposure, observation, inspection, testing and reconstruction. If such work is found to be not in accordance with the Contract Documents, the CONTRACTOR shall correct the defective work, and the cost of reexamination and correction of the defective work shall be paid by the CONTRACTOR.

49. ROYALTIES AND PATENTS

The CONTRACTOR shall pay all royalty and licenses fees, unless otherwise specified. The CONTRACTOR shall defend all suits or claims for infringement of any patent rights and shall save the OWNER and the ENGINEER harmless from any and all loss, including reasonable attorneys' fees, on account thereof.

50. CONTRACTOR'S RIGHT TO TERMINATE CONTRACT

If the work should be stopped under an order of any court or other public authority for a period of more than 3 months, through no act or fault of the CONTRACTOR, its SUBCONTRACTORS, or respective employees or if the ENGINEER should fail to make recommendation for payment to the OWNER or return payment request to CONTRACTOR for revision within 30 days after it is due, or if the OWNER should fail to pay the CONTRACTOR within 30 days after time specified in Article PARTIAL PAYMENTS, any sum recommended by the ENGINEER, then the CONTRACTOR may, upon 15 days' written notice to the OWNER and the ENGINEER, stop work or terminate this Contract and recover from the OWNER payment for all acceptable work performed and reasonable termination expenses, unless said default has

been remedied.

51. CORRECTION OF DEFECTIVE WORK DURING WARRANTY PERIOD

The CONTRACTOR hereby agrees to make, at his own expense, all repairs or replacements necessitated by defects in materials or workmanship, provided under terms of this Contract, and pay for any damage to other works resulting from such defects, which become evident within 2 years after the date of final acceptance of the work or within 2 years after the date of substantial completion established by the ENGINEER for specified items of equipment, or within such longer period as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents. Un-remedied defects identified for correction during the warranty period but remaining after its expiration shall be considered as part of the obligations of the warranty. Defects in material, workmanship, or equipment which are remedied as a result of obligations of the warranty shall subject the remedied portion of the work to an extended warranty period of 2 years after the defect has been remedied.

The CONTRACTOR further assumes responsibility for a similar guarantee for all work and materials provided by SUBCONTRACTORS or manufacturers of packaged equipment components. The effective date for the start of the guarantee or warranty period for equipment qualifying as substantially complete is defined in Article SUBSTANTIAL COMPLETION, AND Article SUBSTANTIAL COMPLETION DATE, in these General Conditions.

The CONTRACTOR also agrees to hold the OWNER and the ENGINEER harmless from liability of any kind arising from damage due to said defects. The CONTRACTOR shall make all repairs and replacements promptly upon receipt of written order for same from the OWNER. If the CONTRACTOR fails to make the repairs and replacements promptly, or in an emergency where delay would cause serious risk, or loss, or damage, the OWNER may have the defective work corrected or the rejected work removed and replaced, and the CONTRACTOR and his Surety shall be liable for the cost thereof.

PROGRESS OF THE WORK

52. BEGINNING OF THE WORK

Following execution of the Contract, the CONTRACTOR shall meet with the OWNER and ENGINEER relative to his arrangements for prosecuting the work.

53. SCHEDULES AND PROGRESS REPORTS

Prior to starting the construction, the CONTRACTOR shall prepare and submit to the ENGINEER, a progress schedule showing the dates on which each part or division of the work is expected to be started and finished, and a preliminary schedule for submittals. The progress schedule for submittals shall be brought up to date and submitted to the ENGINEER at the end of each month or at such other times the ENGINEER may request.

The CONTRACTOR shall forward to the ENGINEER, at the end of each month, an itemized report of the delivery status of major and critical items of purchased equipment and material, including shop drawings and the status of shop and field fabricated work. These progress reports shall indicate the date of the purchase order, the current percentage of completion, estimated delivery, and cause of delay, if any.

If the completion of any part of the work or the delivery of materials is behind the submitted progress schedule, the CONTRACTOR shall submit in writing a plan acceptable to the OWNER and ENGINEER for bringing the work up to schedule.

The OWNER shall have the right to withhold progress payments for the work if the CONTRACTOR fails to update and submit the progress schedule and reports as specified.

54. PROSECUTION OF THE WORK

It is expressly understood and agreed that the time of beginning, rate of progress, and time of completion of the work are the essence of this Contract. The work shall be prosecuted at such time, and in or on such part or parts of the Project as may be required, to complete the Project as contemplated in the Contract Documents and the progress schedule.

If the CONTRACTOR desires to carry on work at night or outside the regular hours, he shall give timely notice to the ENGINEER to allow satisfactory arrangements to be made for observing the work in progress.

55. OWNER'S RIGHT TO RETAIN IMPERFECT WORK

If any part or portion of the work completed under this Contract shall prove defective and not in accordance with the Drawings and Specifications, and if the imperfection in the same shall not be of sufficient magnitude or importance as to make the work dangerous or unsuitable, or if the removal of such work will create conditions which are dangerous or

undesirable, the OWNER shall have the right and authority to retain such work but will make such deductions in the final payment therefore as may be just and reasonable.

56. OWNER'S RIGHT TO DO WORK

Should the CONTRACTOR neglect to prosecute the work in conformance with the Contract Documents or neglect or refuse at his own cost to remove and replace work rejected by the ENGINEER, then the OWNER may notify the Surety of the condition, and after 10 days' written notice to the CONTRACTOR and the Surety, or without notice if an emergency or danger to the work or public exists, and without prejudice to any other right which the OWNER may have under Contract, or otherwise, take over that portion of the work which has been improperly or non-timely executed, and make good the deficiencies and deduct the cost thereof from the payments then or thereafter due the CONTRACTOR.

57. OWNER'S RIGHT TO TRANSFER EMPLOYMENT

If the CONTRACTOR should abandon the work or if he should persistently or repeatedly refuse or should fail to make prompt payment to SUBCONTRACTORS for material or labor, or to persistently disregard laws, ordinances, or to prosecute the work in conformance with the Contract Documents, or otherwise be guilty of a substantial violation of any provision of the Contract or any laws or ordinance, then the OWNER may, without prejudice to any other right or remedy, and after giving the CONTRACTOR and Surety 10 days' written notice, transfer the employment for said work from the CONTRACTOR to the Surety. Upon receipt of such notice, such Surety shall enter upon the premises and take possession of all materials, tools, and appliances thereon for the purpose of completing the work included under this Contract and employ by Contract or otherwise, any qualified person or persons to finish the work and provide the materials therefore, in accordance with the Contract Documents, without termination of the continuing full force and effect of this Contract. In case of such transfer of employment to such Surety, the Surety shall be paid in its own name on estimates according to the terms hereof without any right of the CONTRACTOR to make any claim for the same or any part thereof.

If, after the furnishing of said written notice to the Surety, the CONTRACTOR and the Surety still fail to make reasonable progress on the performance of the work, the OWNER may terminate the employment of the CONTRACTOR and take possession of the premises and of all materials, tools, and appliances thereon and finish the work by whatever method he may deem expedient and charge the cost thereof to the

CONTRACTOR and the Surety. In such case, the CONTRACTOR shall not be entitled to receive any further payment until the work is finished. If the expense of completing the Contract, including compensation for additional managerial and administrative services, shall exceed such unpaid balance, the CONTRACTOR and the Surety shall pay the difference to the OWNER.

58. DELAYS AND EXTENSION OF TIME

If the CONTRACTOR is delayed in the progress of the work by any act or neglect of the OWNER or the ENGINEER, or by any separate CONTRACTOR employed by the OWNER, or by strikes, lockouts, fire, adverse weather conditions not reasonably anticipated, or acts of Nature, and if the CONTRACTOR, within 48 hours of the start of the occurrence, gives written notice to the OWNER of the cause of the potential delay and estimate of the possible time extension involved, and within 10 days after the cause of the delay has been remedied, the CONTRACTOR gives written notice to the OWNER of any actual time extension requested as a result of the aforementioned occurrence, then the Contract time may be extended by change order for such reasonable time as the ENGINEER determines. It is agreed that no claim shall be made or allowed for any damages, loss, or expense which may arise out of any delay caused by the above referenced acts or occurrences other than claims for the appropriate extension of time.

No extension of time will be granted to the CONTRACTOR for delays occurring to parts of the work that have no measurable impact on the completion of the total work under this Contract. No extension of time will be considered for weather conditions reasonably anticipated for the area in which the work is being performed. Reasonably anticipated weather conditions will be based on official records of monthly precipitation and other historical data. Adverse weather conditions, if determined to be of a severity that would impact progress of the work, may be considered as cause for an extension of Contract completion time.

Delays in delivery of equipment or material purchased by the CONTRACTOR or his SUBCONTRACTORS, including OWNER-selected equipment shall not be considered as a just cause for delay, unless the OWNER determines that for good cause the delay is beyond the control of the CONTRACTOR. The CONTRACTOR shall be fully responsible for the timely ordering, scheduling, expediting, delivery, and installation of all equipment and materials.

Within a reasonable period after the Contractor submits to the Owner a written request for an extension of time, the Engineer will present his written opinion to the Owner as to whether an

extension of time is justified, and, if so, his recommendation as to the number of days for time extension. The Owner will make the final decision on all requests for extension of time.

59. DIFFERING SITE CONDITIONS

The CONTRACTOR shall promptly, and before the conditions are disturbed, give a written notice to the OWNER and ENGINEER of:

- A. Subsurface or latent physical conditions at the site which differ materially from those indicated in this contract,
- B. Unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.

The ENGINEER will investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or the time required for, performing any part of the work under this Contract, whether or not changed as a result of the conditions, and equitable adjustment shall be made under this Article and the Contract modified in writing accordingly.

No request by the CONTRACTOR for an equitable adjustment to the Contract under this Article will be allowed, unless the CONTRACTOR has given the written notice required; provided that the time prescribed above for giving written notice may be extended by the OWNER.

No request by the CONTRACTOR for an equitable adjustment to the Contract for differing site conditions will be allowed if made after final payment under this Contract.

60. LIQUIDATED DAMAGES

Should the CONTRACTOR fail to complete the work, or any part thereof, in the time agreed upon in the Contract or within such extra time as may have been allowed for delays by extensions granted as provided in the Contract, the CONTRACTOR shall reimburse the OWNER for the additional expense and damage for each calendar day, Sundays and legal holidays included, that the Contract remains uncompleted after the Contract completion date. It is agreed that the amount of such additional expense and damage incurred by reason of failure to complete the work is the per-diem rate, as stipulated in the Bid. The said amount is hereby agreed upon as a reasonable estimate of the costs which may be accrued by the OWNER after the expiration of the time of

completion. It is expressly understood and agreed that this amount is not to be considered in the nature of a penalty, but as liquidated damages which have accrued against the CONTRACTOR. The OWNER shall have the right to deduct such damages from any amount due, or that may become due to the CONTRACTOR, or the amount of such damages shall be due and collectible from the CONTRACTOR or Surety.

61. OTHER CONTRACTS

The OWNER reserves the right to let other Contracts in connection with the work. The CONTRACTOR shall afford other CONTRACTORS reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.

If any part of the work under this Contract depends for proper execution or results upon the work of any other CONTRACTOR, utility service company or OWNER, the CONTRACTOR shall inspect and promptly report to the ENGINEER in writing any patent or apparent defects to deficiencies in such work that render it unsuitable for such proper execution and results. The CONTRACTOR's failure to so report shall constitute acceptance of the work by others as being fit and proper for integration with work under this Contract, except for latent or non-apparent defects and deficiencies in the work.

62. USE OF PREMISES

The CONTRACTOR shall confine his equipment, the storage of materials and the operation of his workers to limits shown on the Drawings or indicated by law, ordinances, permits, or directions of the ENGINEER, and shall not unreasonably encumber the premises with his materials. The CONTRACTOR shall provide, at his own expense, the necessary rights-of-way and access to the work, which may be required outside the limits of the OWNER's property and shall furnish the ENGINEER copies of permits and agreements for use of the property outside that provided by the OWNER.

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

63. SUBSTANTIAL COMPLETION DATE

The ENGINEER may issue a written notice of substantial completion for the purpose of establishing the starting date for specific equipment guarantees, and to establish the date that

the OWNER will assume the responsibility for the cost of operating such equipment. Said notice shall not be considered as final acceptance of any portion of the work or relieve the CONTRACTOR from completing the remaining work within the specified time and in full compliance with the Contract Documents. See SUBSTANTIAL COMPLETION under DEFINITIONS of these General Conditions.

64. PERFORMANCE TESTING

Operating equipment and systems shall be performance tested in the presence of the ENGINEER to demonstrate compliance with the specified requirements. Performance testing shall be conducted under the specified design operating conditions or under such simulated operating conditions as recommended or approved by the ENGINEER. Schedule such testing with the ENGINEER at least one week in advance of the planned date for testing.

65. OWNER'S USE OF PORTIONS OF THE WORK

Following issuance of the written notice of Substantial Completion, the OWNER may initiate operation of the facility. Such use shall not be considered as final acceptance of any portion of the work, nor shall such use be considered as cause for an extension of the Contract completion time, unless authorized by a Change Order issued by the OWNER.

66. CUTTING AND PATCHING

The CONTRACTOR shall do all cutting, fitting, or patching of his work that may be required to make its several parts come together properly and fit it to receive or be received by work of other CONTRACTORS shown upon or reasonably implied by the Drawings.

67. CLEANING UP

The CONTRACTOR shall, at all times, keep property on which work is in progress and the adjacent property free from accumulations of waste material or rubbish caused by employees or by the work. Upon completion of the construction, the CONTRACTOR shall remove all temporary structures, rubbish, and waste materials resulting from his operations.

PAYMENT

68. PAYMENT FOR CHANGE ORDERS

The OWNER's request for quotations on alterations to the work shall not be considered authorization to proceed with the work prior to the issuance of a formal Change Order, nor shall

such a request justify any delay in existing work. Quotations for alterations to the work shall include substantiating documentation with an itemized breakdown of CONTRACTOR and SUBCONTRACTOR costs, including labor, material, rentals, approved services, overhead, and profit. OWNER may require detailed cost data in order to substantiate the reasonableness of the proposed costs.

Any compensation paid in conjunction with the terms of a Change Order shall comprise total compensation due the CONTRACTOR for the work or alteration defined in the Change Order. By signing the Change Order, the CONTRACTOR acknowledges that the stipulated compensation includes payment for the work or alteration plus all payment for the interruption of schedules, extended overhead, delay, or any other impact claim or ripple effect, and by such signing specifically waives any reservation or claim for additional compensation in respect to the subject Change Order.

At the OWNER's option, payment or credit for any alterations covered by a Change Order shall be determined by one or a combination of the methods set forth in A, B, or C below, as applicable:

A. UNIT PRICES

Those unit prices stipulated in the Bid shall be utilized where they are applicable. In the event the Change Order results in a change in the original quantity that is materially and significantly different from the original bid quantity, a new unit price shall be negotiated upon demand of either party. Unit prices for new items included in the Change Order shall be negotiated and mutually agreed upon.

B. LUMP SUM

A total lump sum for the work negotiated and mutually acceptable to the CONTRACTOR and the OWNER.

Lump sum quotations for modifications to the work shall include substantiating documentation with an itemized breakdown of CONTRACTOR and SUBCONTRACTOR costs, including labor, material, rentals, approved services, overhead, and profit, all calculated as specified under "C" below.

C. COST REIMBURSEMENT WORK

The term "cost reimbursement" shall be understood to mean that payment for the work will be made on a time and expense basis, that is, on an accounting of the CONTRACTOR's forces, materials, equipment, and other items of cost as

required and used to do the work.

If the method of payment cannot be agreed upon prior to the beginning of the work, and the OWNER directs by written Change Order that the work be done on a cost reimbursement basis, then the CONTRACTOR shall furnish labor, and furnish and install equipment and materials necessary to complete the work in a satisfactory manner and within a reasonable period of time. For the work performed, payment will be made for the documented actual cost of the following:

1. Labor including foremen for those hours they are assigned and participating in the cost reimbursement work (actual payroll cost, including wages, fringe benefits as established by negotiated labor agreements, labor insurance, and labor taxes as established by law). No other fixed labor burdens will be considered, unless approved in writing by the OWNER.
2. Material delivered and used on the designated work, including sales tax, if paid by the CONTRACTOR or his SUBCONTRACTOR.
3. Rental or equivalent rental cost of equipment, including necessary transportation for items having a value in excess of \$100.

Rental or equivalent rental cost will be allowed for only those days or hours during which the equipment is in actual use. Rental and transportation allowances shall not exceed the current rental rates prevailing in the locality. The rentals allowed for equipment will, in all cases, be understood to cover all fuel, supplies, repairs, and renewals, and no further allowances will be made for those items, unless specific agreement to that effect is made.

4. Additional bond, as required and approved by the OWNER.
5. Additional insurance (other than labor insurance) as required and approved by the OWNER.

In addition to items 1 through 5 above, an added fixed fee for general overhead and profit shall be negotiated and allowed for the CONTRACTOR (or approved SUBCONTRACTOR) actually executing the Cost Reimbursement work.

An additional fixed fee shall be negotiated and allowed the CONTRACTOR for the administrative handling of portions of the work that are executed by an approved SUBCONTRACTOR. No additional fixed fee will be allowed for the administrative handling of work executed by a SUBCONTRACTOR of a SUBCONTRACTOR, unless by written permission from the OWNER.

The added fixed fees shall be considered to be full compensation, covering the cost of general supervision, overhead, profit, and any other general expense. The CONTRACTOR's records shall make clear distinction between the direct costs of work paid for on a cost reimbursement basis and the costs of other work. The CONTRACTOR shall furnish the ENGINEER report sheets in duplicate of each day's cost reimbursement work no later than the working day following the performance of said work. The daily report sheets shall itemize the materials used, and shall cover the direct cost of labor and the charges for equipment rental, whether furnished by the CONTRACTOR, SUBCONTRACTOR or other forces. The daily report sheets shall provide names or identifications and classifications of workers, the hourly rate of pay and hours worked, and also the size, type, and identification number of equipment and hours operated.

Material charges shall be substantiated by valid copies of vendors' invoices. Such invoices shall be submitted with the daily report sheets, or, if not available, they shall be submitted with subsequent daily report sheets. Said daily report sheets shall be signed by the CONTRACTOR or his authorized agent.

The OWNER reserves the right to furnish such materials and equipment as he deems expedient and the CONTRACTOR shall have no claim for profit or added fees on the cost of such materials and equipment. To receive partial payments and final payment for cost reimbursement work, the CONTRACTOR shall submit to the ENGINEER, detailed and complete documented verification of the CONTRACTOR's and any of his SUBCONTRACTORS' actual costs involved in the cost reimbursement work. Such costs shall be submitted within 30 days after said work has been performed.

69. PARTIAL PAYMENTS

A. GENERAL

Nothing in this Article shall be construed to affect the right, hereby reserved, to reject the whole or any part of the aforesaid work, should such work be later found not to comply with the provisions of the Contract Documents. All estimated quantities of work for which partial payments have been made are subject to review and correction on the final estimate. Payment by the OWNER and acceptance by the CONTRACTOR of partial payments based on periodic estimates of quantities of work performed shall not, in any way, constitute acceptance of the estimated quantities used as a basis for computing the amounts of the partial payments.

B. ESTIMATE

At least 30 days before each progress payment falls due, as specified in the Supplementary Conditions, the CONTRACTOR shall submit to the ENGINEER a detailed estimate of the amount earned during the preceding month for the separate portions of the work, and request payment. As used in this Article, the words "amount earned" means the value, on the date of the estimate for partial payment, of the work completed in accordance with the Contract Documents, and the value of approved materials delivered to the project site suitable stored and protected prior to incorporation into the work.

ENGINEER will, within 7 days after receipt of each request for payment, either indicate in writing a recommendation of payment and present the request to OWNER, or return the request to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may, within 7 days, make the necessary corrections and resubmit the request.

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

1. The work is defective, or completed work has been damaged requiring correction or replacement;
2. Written claims have been made against OWNER or Liens have been filed in connection with the work;
3. The Contract Price has been reduced because of Change Orders;
4. OWNER has been required to correct defective work or complete the work in accordance with Article OWNER'S RIGHT TO DO WORK;
5. Of CONTRACTOR's unsatisfactory prosecution of the work in accordance with the Contract Documents; or
6. CONTRACTOR's failure to make payment to SUBCONTRACTORS or for labor, materials, or equipment.

C. DEDUCTION FROM ESTIMATE

Unless modified in the Supplementary Conditions, deductions from the estimate will be as described below:

1. The OWNER will deduct from the estimate, and retain as part security, 10 percent of the amount earned for work satisfactorily completed. A deduction and retainage of 10 percent will be made on the estimated amount earned for approved items of material delivered to and properly stored at the jobsite but not incorporated into the work. When the work is 50 percent complete, the OWNER may reduce the retainage to 5 percent of the dollar value of all work satisfactorily completed to date provided the CONTRACTOR is making satisfactory progress and there is no specific cause for a greater retainage. The OWNER may reinstate the retainage up to 10 percent if the OWNER determines, at his discretion, that the CONTRACTOR is not making satisfactory progress or where there is other specific cause for such withholding.

D. QUALIFICATION FOR PARTIAL PAYMENT FOR MATERIALS DELIVERED

Unless modified in the Supplementary Conditions, qualification for partial payment for materials delivered but not yet incorporated into the work shall be as described below:

1. Materials, as used herein, shall be considered to be those items which are fabricated and manufactured material and equipment. No consideration shall be given to individual purchases of less than \$200 for any one item.
2. To receive partial payment for materials delivered to the site, but not incorporated in the work, it shall be necessary for the CONTRACTOR to include a list of such materials on the Partial Payment Request. At his sole discretion, the ENGINEER may approve items for which partial payment is to be made. Partial payment shall be based on the CONTRACTOR's actual cost for the materials as evidenced by invoices from the supplier. Proper storage and protection shall be provided by the CONTRACTOR, and as approved by the ENGINEER. Final payment shall be made only for materials actually incorporated in the work and, upon acceptance of the work, all materials remaining for which advance payments had been made shall revert to the CONTRACTOR, unless otherwise agreed, and partial payments made for these items shall be

deducted from the final payment for the work.

3. CONTRACTOR warrants and guarantees that title to all work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER at the time of payment free and clear of all liens, claims, security interests, and encumbrances.
4. If requested by the ENGINEER, the CONTRACTOR shall provide, with subsequent pay requests, invoices received by the supplier showing payment in full has been made.

E. PAYMENT

After deducting the retainage and the amount of all previous partial payments made to the CONTRACTOR from the amount earned, the amount due will be made payable to the CONTRACTOR. Recommendations for payment received by the OWNER less than 9 days prior to the scheduled day for payment will not be processed or paid until the following month.

70. CLAIMS FOR EXTRA WORK

In any case where the CONTRACTOR deems additional time or compensation will become due him under this Contract for circumstances other than those defined in Article DELAYS AND EXTENSION OF TIME, the CONTRACTOR shall notify the ENGINEER, in writing, of his intention to make claim for such time or compensation before he begins the work on which he bases the claim, in order that such matters may be settled, if possible, or other appropriate action taken. The notice of claim shall be in duplicate, in writing, and shall state the circumstances and the reasons for the claim, but need not state the amount. If such notification is not given or if the ENGINEER is not afforded proper facilities by the CONTRACTOR for keeping strict account of actual cost, then the CONTRACTOR hereby agrees to waive the claim for such additional time or compensation. Such notice by the CONTRACTOR, and fact that the ENGINEER has kept account of the cost as aforesaid, shall not in any way be construed as proving the validity of the claim.

No extension of time will be granted to the CONTRACTOR for delays resulting from extra work that have no measurable impact on the completion of the total Work under this Contract. Claims for additional time or compensation shall be made in itemized detail and submitted, in writing, to the OWNER and ENGINEER within 10 days following completion of that portion of the work for which the CONTRACTOR bases his claim. Failure to make the claim

for additional compensation in the manner and within the time specified above shall constitute waiver of that claim. In case the claim is found to be just, it shall be allowed and paid for as provided in Article PAYMENT FOR CHANGE ORDERS.

71. RELEASE OF LIENS OR CLAIMS

The CONTRACTOR shall indemnify and hold harmless the OWNER from all claims for labor and materials furnished under this Contract. Prior to the final payment, the CONTRACTOR shall furnish to the OWNER, as part of his final payment request, a certification that all of the CONTRACTOR's obligations on the Project have been satisfied and that all monetary claims and indebtedness have been paid. The CONTRACTOR shall furnish complete and legal effective releases or waivers, satisfactory to the OWNER, of all liens arising out of or filed in connection with the work.

72. FINAL PAYMENT

Upon completion of all the work under this Contract, the CONTRACTOR shall notify the ENGINEER, in writing, that he has completed his part of the Contract and shall request final payment. Upon receipt of such notice the ENGINEER will inspect and, if acceptable, submit to the OWNER his recommendation as to acceptance of the completed work and as to the final estimate of the amount due the CONTRACTOR. Upon approval of this final estimate by the OWNER and compliance by the CONTRACTOR with provisions in Article RELEASE OF LIENS OR CLAIMS, and other provisions as may be applicable, the OWNER shall pay to the CONTRACTOR all monies due him under the provisions of these Contract Documents.

73. NO WAIVER OF RIGHTS

Neither the inspection by the OWNER, through the ENGINEER or any of his employees, nor any order by the OWNER for payment of money, nor any payment for, or acceptance of, the whole or any part of the work by the OWNER or ENGINEER, nor any extension of time, nor any possession taken by the OWNER or its employees, shall operate as a waiver of any provision of this Contract, or any power herein reserved to the OWNER, or any right to damages herein provided, nor shall any waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach. Acceptance or final payment shall not be final and conclusive with regards to latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the OWNER's rights under the warranty.

**74. ACCEPTANCE OF FINAL PAYMENT
CONSTITUTES RELEASE**

The acceptance by the CONTRACTOR of the final payment shall release the OWNER and the ENGINEER, as representatives of the OWNER, from all claims and all liability to the CONTRACTOR for all things done or furnished in connection with the work, and every act of the OWNER and others relating to or arising out of the work except claims previously made in writing and still unsettled. No payment, however, final or otherwise, shall operate to release the CONTRACTOR or his Sureties from obligations under this Contract and the Performance Bond, Payment Bond, and other bonds and warranties, as herein provided.

SUPPLEMENTARY CONDITIONS

REVISIONS AND ADDITIONS TO THE GENERAL CONDITIONS

The General Conditions are hereby revised as follows:

ARTICLE 9 "ENGINEER"

Add the following:

Wherever in these Documents the word "Engineer" appears, it shall be understood to mean the City of Key West, Senior Project Manager or authorized representatives.

ARTICLE 12 "OWNER"

Add the following:

Wherever in these Documents the word "Owner" appears, it shall be understood to mean the City of Key West whose address is 3126 Flagler Avenue, Key West, Florida 33040.

ARTICLE 14 "SPECIFICATIONS"

Add the following:

FEDERAL, STATE, COUNTY, AND LOCAL STANDARD SPECIFICATIONS

Where portions of the work traverse or cross federal, state, county, or local highways, roads, or streets, and the agency in control of such property has established standard specifications governing items of work that differ from these Specifications, the most stringent requirements shall apply. Contractor shall comply with all regulations and requirements of the Department of Transportation and the County Road Department wherever the work traverses or crosses state or county highways.

ARTICLE 29 "LINES AND GRADES"

Add the following:

It will be the Contractor's responsibility to layout the work and to transfer elevations from benchmarks. Where new construction connects to existing facilities, the Contractor shall check and establish the exact location prior to construction of the facilities.

The Contractor shall furnish all surveys, labor, and equipment, including setting all alignment and gradient, grade stakes, batter boards, and everything necessary to lay out his work. The Contractor shall be responsible for maintaining and re-establishing at his expense, all control points. After completion of his construction, he shall reset all permanent monuments at their original locations and elevations.

The Engineer may check all layout work, and the Contractor shall furnish all necessary labor, equipment, and materials, and shall cooperate and assist the Engineer in making such checks.

The dimensions for lines and elevations for grades of the structures, appurtenances, and utilities will be shown on Drawings, together with other pertinent information required for laying out the work.

If site conditions vary from those indicated, the Contractor shall notify the Engineer immediately, who will make any minor adjustment as required.

ARTICLE 34 "INSURANCE AND LIABILITY"

Sub-Article A. "GENERAL"

Add the following after first sentence:

All insurance required by this contract shall contain a "waiver of subrogation" provision whereas the contractor's insurer waives any claim against the City of Key West.

ARTICLE 34 "INSURANCE AND LIABILITY"

Sub-Article B. "CONTRACTOR AND SUBCONTRACTOR INSURANCE"

Add the following:

CONTRACTOR is to secure, pay for, and file with the City of Key West, prior to commencing any work under the Contract, all certificates for workers' compensation, public liability, and property damage liability insurance, and such other insurance coverages as may be required by specifications and addenda thereto, in at least the following minimum amounts with specification amounts to prevail if greater than minimum amounts indicated. Notwithstanding any other provision of the Contract, the CONTRACTOR shall provide the minimum limits of liability insurance coverage as follows:

Auto Liability	\$1,000,000	Combined Single Limit
General Liability	\$2,000,000	Aggregate (Per Project)
	\$2,000,000	Products Aggregate
	\$1,000,000	Any One Occurrence
	\$1,000,000	Personal Injury
	\$ 300,000	Fire Damage/Legal
Additional Umbrella Liability	\$2,000,000	Occurrence / Aggregate

CONTRACTOR shall furnish an original Certificate of Insurance indicating, and such policy providing coverage to, City of Key West named as an additional insured on a PRIMARY and NON CONTRIBUTORY basis utilizing an ISO standard endorsement at least as broad as CG 2010 (11/85) or its equivalent, (combination of CG 20 10 07 04 and CG 20 37 07 04, providing coverage for completed operations, is acceptable) including a waiver of subrogation clause in favor of City of Key West on all policies. CONTRACTOR will maintain the General Liability and Umbrella Liability insurance coverages summarized above with coverage continuing in full force including the additional insured endorsement until at least 3 years beyond completion and delivery of the work contracted herein.

Notwithstanding any other provision of the Contract, the CONTRACTOR shall maintain complete workers' compensation coverage for each and every employee, principal, officer, representative, or agent of the CONTRACTOR who is performing any labor, services, or material under the Contract. Further, CONTRACTOR shall additionally maintain the following minimum limits of coverage:

Bodily Injury Each Accident	\$1,000,000
Bodily Injury by Disease Each Employee	\$1,000,000
Bodily Injury by Disease Policy Limit	\$1,000,000

If the work is being done on or near a navigable waterway, CONTRACTOR's workers compensation policy shall be endorsed to provide USL&H Act (WC 00 01 06 A) and Jones Act (WC 00 02 01 A) coverage if specified by the City of Key West. CONTRACTOR shall provide the City of Key West with a Certificate of Insurance verifying compliance with the workman's compensation coverage as set forth herein and shall provide as often as required by the City of Key West such certification which shall also show the insurance company, policy number, effective and expiration date, and the limits of workman's compensation coverage under each policy.

CONTRACTOR's insurance policies shall be endorsed to give 30 days written notice to the City of Key West in the event of cancellation or material change, using form CG 02 24, or its equivalent.

Certificates of Insurance submitted to the City of Key West will not be accepted without copies of the endorsements being requested. This includes additional insured endorsements, cancellation/material change notice endorsements, and waivers of subrogation. Copies of USL&H Act and Jones Act endorsements will also be required if necessary. PLEASE ADVISE YOUR INSURANCE AGENT ACCORDINGLY.

CONTRACTOR will comply with any and all safety regulations required by any agency or regulatory body including but not limited to OSHA. CONTRACTOR will notify City of Key West immediately by telephone at (305) 809-3811 any accident or injury to anyone that occurs on the jobsite and is related to any of the work being performed by the CONTRACTOR.

ARTICLE 34 "INSURANCE AND LIABILITY"

Add the following Article:

SURETY AND INSURER QUALIFICATIONS

All bonds, insurance contracts, and certificates of insurance shall be either executed by or countersigned by a licensed resident agent of the Surety or insurance company, having his place of business in the State of Florida, and in all ways complying with the insurance laws of the State of Florida. Further, the said Surety or insurance company shall be duly licensed and qualified to do business in the State of Florida.

ARTICLE 35 "INDEMNITY"

Add the following:

The obligation of the CONTRACTOR under this Article shall be limited to the contractual liability, as specified in the Supplementary Conditions, Article INSURANCE AND LIABILITY.

ARTICLE 35 "INDEMNITY"

Replace INDEMNITY with the following:

To the fullest extent permitted by law, the CONTRACTOR expressly agrees to indemnify and hold harmless the City of Key West, their officers, directors, agents, and employees (herein called the "indemnitees") from liabilities, damages, losses and costs, including, but not limited to, reasonable attorney's fees and court costs, such legal expenses to include costs incurred in establishing the indemnification and other rights agreed to in this Paragraph, to persons or property, to the extent caused by the negligence, recklessness, or intentional wrongful

misconduct of the CONTRACTOR, its Subcontractors or persons employed or utilized by them in the performance of the Contract. Claims by indemnitees for indemnification shall be limited to the amount of CONTRACTOR's insurance or \$1 million per occurrence, whichever is greater. The parties acknowledge that the amount of the indemnity required hereunder bears a reasonable commercial relationship to the Contract and it is part of the project specifications or the bid documents, if any.

The indemnification obligations under the Contract shall not be restricted in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR under workers' compensation acts, disability benefits acts, or other employee benefits acts, and shall extend to and include any actions brought by or in the name of any employee of the CONTRACTOR or of any third party to whom CONTRACTOR may subcontract a part or all of the Work. This indemnification shall continue beyond the date of completion of the work.

ARTICLE 39 "CODES, ORDINANCES, PERMITS, AND LICENSES"

Add the following:

A. PERMIT FOR WORK WITHIN THE FEDERAL, COUNTY, AND/OR STATE RIGHTS-OF-WAY

The Owner will obtain from the county and/or state the necessary permit for work within the rights-of-way. A copy of the permit is available at the office of the Owner. The Contractor shall abide by all regulations and conditions stipulated in the permits, and such conditions and requirements are hereby made a part of these Supplementary Conditions, as fully and completely as though the same were fully set forth herein. The Contractor shall examine the permits granted to the Owner, by the county and/or state. Failure to do so will not relieve the Contractor from compliance with the requirements stated therein.

The Contractor shall prepare, submit, and have approved at his expense traffic maintenance plans required by federal, state, county, and local agencies having jurisdiction.

B. PERMIT FOR WORK WITHIN LOCAL RIGHTS-OF-WAY

The Contractor shall obtain from the City of Key West the necessary permits for work within the rights-of-way. The Contractor shall abide by all regulations and conditions, including maintenance of traffic.

C. PUBLIC WORKS COMPLIANCE ACT

1. GENERAL

If the Contract amount exceeds \$25,000, the Contractor shall abide by the requirements of the State Public Works Compliance Act, Section 446.101 Florida Statutes. The Act generally requires the Contractor to:

- a. Participate in registered training programs with the State of Florida.
- b. Hire for the duration of the Contract, a ratio of at least one registered apprentice or trainee to every five journeymen working on the project.
- c. Prior to the commencement of the work, submit a letter of intent to the Bureau of Apprenticeship and to others as required by the Act.
- d. Prepare and submit quarterly to the Bureau of Apprenticeship, records of employment on report form BAP-500.

2. ADMINISTRATION

Administration of the apprenticeship program for this Contract will be under the designated area field office of the Bureau of Apprenticeship.

D. NOISE ORDINANCE

The Contractor shall comply with the City of Key West Noise Ordinance.

E. "LICENSES"

Within 10 days of Notice of Award, the successful Bidder must represent that he holds all applicable state, county, and City of Key West licenses and permits required to do business as a contractor with respect to the work described in the Contract Documents.

Further, the successful Bidder must, within 10 days of Notice of Award, furnish documentation showing that, as a minimum, he has complied with the provisions of Chapter 18 of the Code of Ordinances of the City of Key West in order to enter into the Agreement contained in the Contract Documents.

Specifically, within 10 days after Notice of Award, the successful Bidder must demonstrate that he holds, as a minimum, the following licenses and certificates:

1. City of Key West, Engineering Contractor Class I license.
2. Holds a valid Certificate of Competency issued by the Director of the Building Department, which shall be valid throughout the Contract time.
3. Holds a valid occupational license issued by the City of Key West.

ARTICLE 42 "SAFETY"

Add the following sub article:

OCCUPATIONAL SAFETY AND HEALTH

The Contractor shall observe and comply with all applicable local, state, and federal occupational safety and health regulations during the prosecution of work under this Contract. In addition, full compliance by the Contractor with the U.S. Department of Labor's Occupational Safety and Health Standards, as established in Public Law 91-596, will be required under the terms of this Contract.

ARTICLE 43 "PROTECTION OF WORK AND PROPERTY"

Add the following Article:

HISTORIC PRESERVATION

The Contractor shall comply with Florida's Archives and Historic Act (Florida Statutes, Chapter 267) and the regulations of the local historic preservation board as applicable and protect against the potential loss or destruction of significant historical or archaeological data, sites, and properties in connection with the project.

ARTICLE 45 "MATERIALS AND APPLIANCES"

Add the following to the end of the first paragraph:

At contract completion, no equipment purchased by the contractor shall be transferred to state or local ownership.

ARTICLE 57 "OWNERS RIGHT TO TRANSFER EMPLOYMENT"

Add the following Article:

TERMINATION FOR CONVENIENCE AND RIGHT OF SUSPENSION

- A. Owner shall have the right to terminate this Contract without cause by written notice of Termination to the Contractor. In the event of such termination for convenience, the Contractor's recovery against the Owner shall be limited to that portion of the Contract amount earned through the date of termination, together with any retainage withheld and reasonable termination expenses incurred. Contractor shall not be entitled to any other or further recovery against the Owner, including, but not limited to, damages or any anticipated profit on portions of the Work not performed.
- B. Owner shall have the right to suspend all or any portions of the Work upon giving the Contractor prior written notice of such suspension. If all or any portion of the Work is so suspended, the Contractor shall be entitled to reasonable costs, expenses and time extension associated with the suspension.

ARTICLE 69 "PARTIAL PAYMENTS"

Delete the first paragraph of Article "PARTIAL PAYMENTS" and substitute the following:

No more than once each month the Contractor shall submit to the Engineer a detailed estimate of the amount earned during the preceding month for the separate portions of the work and request payment. As used in this Article the words "amount earned" means the value, on the date of the estimate, for partial payment of the work completed in accordance with the Contract Documents and the value of approved materials delivered to the project site suitably stored and protected prior to incorporation into the work.

ARTICLE 69"PARTIAL PAYMENTS"

Add the following:

Payment will be made by the Owner to the Contractor within 40 days receipt of the written recommendation of payment from the Engineer.

ARTICLE 69 "PARTIAL PAYMENTS"

Delete Subarticle C "DEDUCTION FROM ESTIMATE" in its entirety and substitute the following:

DEDUCTION FROM ESTIMATE

The Owner will deduct from the estimate and retain as part security 10 percent of the amount earned for work satisfactorily completed. A deduction and retainage of 10 percent will be made on the estimated amount earned for approved items of material delivered to and properly stored at the jobsite but not incorporated into the work.

ARTICLE 69 "PARTIAL PAYMENT"

Delete Subarticle E "PAYMENT" in its entirety and substitute the following:

PAYMENT

After deducting the retainage and the amount of all previous partial payments made to the Contractor from the amount earned the amount due will be made payable to the Contractor. Recommendations for payment received by the Owner less than 40 days prior to the scheduled day for payment will not be processed or paid until the following month.

ARTICLE 72 "FINAL PAYMENT"

Delete Article "FINAL PAYMENT" in its entirety and substitute the following:

FINAL PAYMENT

Upon completion of the work the Contractor shall notify the Engineer, in writing, that he has completed it and shall request final payment. The Contractor shall be responsible for keeping an accurate and detailed record of his actual construction. Upon completion of construction and before final acceptance and payment the Contractor shall furnish the Engineer record drawings of his construction. Upon receipt of a request for final payment and the record drawings the Engineer will inspect and, if acceptable, submit to the Owner his recommendation as to acceptance of the completed work and as to the final estimate of the amount due the Contractor. Upon approval of this final estimate by the Owner and compliance by the Contractor with provisions in Article RELEASE OF LIENS OR CLAIMS, and other provisions as may be applicable, the Owner shall pay to the Contractor all monies due him under the provisions of these Contract Documents.

PART 4

SPECIFICATIONS

DIVISION 1

GENERAL REQUIREMENTS

**SECTION 01001
GENERAL REQUIREMENTS**

PART 1 PROJECT DESCRIPTION

1.1 GENERAL

- A. The following additional information, though not all-inclusive, is given to assist contractors in their evaluation of the work required to meet the project objectives.
- B. A brief description of the work is stated in the Invitation to Bid. To determine the full scope of the project or, any particular part of the project, coordinate the applicable information in the several parts of these Contract Documents.

1.2 FDOT SPECIFICATIONS

- A. Portions of The Florida Department of Transportation Standard Specifications for Road and Bridge Construction and their Roadway and Traffic Design Standards, hereinafter referred to as the FDOT Specifications, are referred to herein and amended, in part, and the same are hereby made a part of this Contract to the extent of such references and shall be as binding upon the Contract as though reproduced herein. Such reference shall mean the current edition, including all supplements. In case of a conflict in the requirements of the FDOT Specifications and the requirements stated herein, the requirements herein shall prevail.

1.3 ENGINEER

The Engineer for this project is Senior Project Manager, General Services Engineering Department, City of Key West, Florida.

PART 2 SEQUENCE OF OPERATIONS

2.1 MOBILIZATION AND DEMOBILIZATION

- A. CONTRACTOR shall be responsible for mobilization and demobilization of labor, materials and equipment. Payment for mobilization and demobilization will be included in the unit price indicated in the BID.
- B. DAILY REPORTS
 - 1) CONTRACTOR shall submit daily reports of construction activities for each site, including non-work days. The report shall include:
 - (a) Manpower, number of men by craft;
 - (b) Quality Control;
 - (c) Equipment on the Project;
 - (d) Major deliveries;
 - (e) Activities worked with reference to the CPM schedule of activity numbers;
 - (f) New problems; and
 - (g) Other pertinent information.
 - 2) A similar report shall be submitted for/by each Subcontractor.
 - 3) The reports shall be submitted to the ENGINEER each month.

2.2 SCHEDULING

- A. Plan the work and carry it out with minimum interference to the operation of the existing facilities. Prior to starting the work confer with the Engineer and Owner's representative to develop an approved work schedule which will permit the facilities to function normally as practical. It may be necessary to do certain parts of the construction work outside normal working hours in order to avoid undesirable conditions. CONTRACTOR shall do this work at such times and at no additional cost to the Owner. Do not make connections between existing work and new work until necessary inspection and tests have been completed on the new work and it is found to conform, in all respects, to the requirements of the Contract Documents.
- B. Work on existing structures and facilities shall be performed on a schedule and in a manner that will permit the existing facility to operate continuously.
- C. In order to meet the overall objectives of the project, certain elements of work may have to be completed or substantially completed in a given sequence that will be identified by the Engineer.
- D. No work shall be started until CONTRACTOR has sufficient manpower, equipment, and material to complete the project. No work shall commence without express consent of the Engineer.

2.3 COORDINATION

- A. Contractors shall cooperate in the coordination of their separate activities, in a manner that will provide the least interference with the Owner's operations, other contractors and utility companies working in the area, and in the interfacing and connection of the separate elements of the overall project work.
- B. If any difficulty or dispute should arise in the accomplishment of the above, the problem shall be brought immediately to the attention of the Engineer.

2.4 WORK TO BE PERFORMED BY OTHERS

- A. During the construction period for this project, the Owner (either with his own forces or under a separate contract) may be performing work that may require the cooperation of Contractors in scheduling and coordination, to avoid conflicts.
- B. If any difficulty or dispute should arise in the accomplishment of the above, the problem shall be brought immediately to the attention of the Engineer.
- C. All contractors working on the site are subject to this requirement for cooperation and all shall abide by the Engineer's decision in resolving project coordination problems without additional cost to the Owner.

2.5 SHUTDOWN OF EXISTING OPERATIONS OR UTILITIES

- A. Continuous operation of the Owner's existing sewer system is of critical importance. CONTRACTOR's operation shall not result in the interruption of sewage, water, or solid waste service to any customers.

- B. Connections to existing services or utilities or other work that requires the temporary shutdown of any existing operations or utilities shall be planned in detail with appropriate scheduling of the work and coordinated with the Owner or Engineer. Advance notice shall be given in order that the Owner or Engineer may witness the shutdown, tie-in, and startup. The temporary shutdown must be approved by the Owner.
- C. All materials and equipment (including emergency equipment) necessary to expedite the tie-in shall be on hand, prior to the shutdown of existing services or utilities.

2.6 OPERATION OF EXISTING SYSTEM PROHIBITED

CONTRACTOR shall at no time undertake to close off any lines or open valves or take any other action that would affect the operation of the existing system, except as specifically required by the Drawings and Specifications and after approval is granted by the Owner. CONTRACTOR shall request approval, five working days in advance of the time that interruption of the existing system is required.

PART 3 SITE CONDITIONS

3.1 SITE INVESTIGATION AND REPRESENTATION

- A. CONTRACTOR acknowledges satisfaction as to the general nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, availability of labor, water, electric power, roads, and uncertainties of weather or similar physical conditions, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect the work or the cost thereof under this Contract.
- B. CONTRACTOR further acknowledges satisfaction as to character, quality, and quantity of surface and subsurface materials to be encountered from his inspection of the site and from reviewing any available records of exploratory work furnished by the Owner or included in these Documents. Failure by CONTRACTOR to become acquainted with the physical conditions of the site and all available information will not relieve CONTRACTOR from responsibility for properly estimating the difficulty or cost of successfully performing the work.
- C. CONTRACTOR warrants that as a result of examination and investigation of all the aforesaid data, he shall perform the Work in a good and workmanlike manner and to the satisfaction of the Owner.
- D. The Owner assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract, and (2) the Contract expressly provides that the responsibility therefore is assumed by the Owner.

3.2 INFORMATION ON SITE CONDITIONS

General: Any information obtained by the Engineer regarding site conditions, subsurface information, groundwater elevations, existing construction of site facilities as applicable and similar data will be available for inspection at the office of the Engineer upon request. Such information is offered as supplementary information only. Neither the Engineer nor the Owner assumes any responsibility for the completeness or interpretation of such supplementary information.

3.3 SUBSURFACE INVESTIGATION

- A. No test holes or borings have been made by the Owner; however, any information the Owner may have concerning subsurface conditions will be made available to CONTRACTOR upon request.
- B. CONTRACTOR shall examine the site and may make arrangements with the Owner to conduct his own subsurface investigation.

3.4 DIFFERING SUBSURFACE CONDITIONS

- A. Engineer shall investigate such conditions promptly and following this investigation, the CONTRACTOR shall proceed with the work, unless otherwise instructed by the Engineer. If the Engineer finds that such conditions do so materially differ and cause an increase or decrease in the cost of, or in the time required for performing the work, the Engineer will recommend to the Owner the amount of adjustment in cost and time he considers reasonable. The Owner will make the final decision on all Change Orders to the Contract regarding any adjustment in cost or time for completion.
- B. CONTRACTOR shall note that the existing utilities are NOT shown on the plans.
- C. CONTRACTOR shall repair all utilities damaged during construction operations, at no cost to the Owner or City of Key West.
- D. CONTRACTOR shall pay permit fees required to relocate, replace or repair utilities.

3.5 UTILITIES

CONTRACTOR shall be responsible for determining, at his cost, the locations and elevations of all utilities in each project area and shall be responsible for contacting each utility for location and notification prior to commencing work.

3.6 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

- A. Where CONTRACTOR's operations could cause damage or inconvenience to telephone, television, power, water, or sewer systems, the operations shall be suspended until all arrangements necessary for the protection of these utilities and services have been made by CONTRACTOR.
- B. Notify all utility offices which are affected by the construction operation at least 48 hours in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.
- C. CONTRACTOR shall be solely and directly responsible to the Owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this Contract.

- D. Neither the Owner nor its officers or agents shall be responsible to the CONTRACTOR for damages as a result of the CONTRACTOR's failure to protect utilities encountered in the work.
- E. In the event of interruption to domestic water, sewer, storm drain, or other utility services as a result of accidental breakage due to construction operations, promptly notify the proper authority. Cooperate with said authority in restoration of service as promptly as possible and bear all costs of repair. In no case shall interruption of any water or utility service be allowed to exist outside working hours unless prior approval is granted.
- F. In the event CONTRACTOR encounters water service lines that interfere with the trenching he may, by obtaining prior approval of the property owner, Florida Keys Aqueduct Authority or Fire Department, as applicable, and the Engineer, cut the service, dig through, and restore the service with similar and equal materials at the CONTRACTOR's expense.
- G. CONTRACTOR shall replace, at his own expense, all existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract documents or ordered by the Engineer.

3.7 INTERFERING STRUCTURES

- A. Take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground.
- B. Protect underground and above ground existing structures from damage, whether or not they lie within the limits of the easements obtained by the Owner. Where such existing fences, gates, sheds, buildings, or any other structure must be removed in order to properly carry out the construction, or are damaged during construction, restore to their original condition to the satisfaction of the property owner involved at the CONTRACTOR's own expense. Notify the Engineer of any damaged underground structure and make repairs or replacements before backfilling.
- C. Without additional compensation CONTRACTOR may remove and replace in a condition as good as or better than original such small miscellaneous structures as fences, mailboxes, and signposts that interfere with CONTRACTOR's operations.

3.8 FIELD RELOCATION

During the progress of construction it is expected that minor relocations of the work will be necessary. Such relocations shall be made only by direction of the Engineer. If existing structures are encountered which prevent the construction and which are not properly shown on the Drawings, notify the Engineer before continuing with the construction in order that the Engineer may make such field revisions as necessary to avoid conflict with the existing structures. If CONTRACTOR fails to so notify the Engineer when an existing structure is encountered and shall proceed with the construction despite this interference he shall do so at his own risk.

3.9 LAND MONUMENTS:

CONTRACTOR shall notify the Engineer prior to disturbing any existing federal, state, county, city, and private land monuments. CONTRACTOR shall hire a licensed land surveyor to research and reference all private and government land monuments prior to construction. Private and government land monuments shall be preserved or replaced by a licensed surveyor at the

CONTRACTOR's expense. When government monuments are encountered, CONTRACTOR shall notify the Engineer at least two weeks in advance of the proposed construction, in order that the Engineer will have ample opportunity to notify the proper authority to reference these monuments for later replacement.

PART 4 TEMPORARY CONSTRUCTION UTILITIES AND FACILITIES

4.1 TEMPORARY WATER

CONTRACTOR shall make his own arrangements to obtain suitable water and shall pay all costs.

4.2 TEMPORARY ELECTRIC POWER

CONTRACTOR shall make arrangements to obtain and pay for electrical power used until final acceptance by the Owner.

4.3 SAFETY REQUIREMENTS FOR TEMPORARY ELECTRIC POWER

Temporary electric power installation shall meet the construction safety requirements of OSHA, state and other governing agencies.

4.4 SANITARY FACILITIES

CONTRACTOR shall provide and maintain sanitary facilities for his employees and his subcontractors' employees that will comply with the regulations of local and state departments of health, and as directed by the Owner.

4.5 STORAGE OF MATERIALS

A. Materials shall be so stored as to ensure the preservation of their quality and fitness for the work. When considered necessary, materials shall be placed on wooden platforms or other hard, clean surfaces, not on the ground. Storage of materials on the right-of-way site shall be approved by the Engineer, at the location designated by the Engineer.

B. Stored materials shall be located so as to facilitate prompt inspection. Private property shall not be used for storage purposes without the written permission of the owner or lessee.

C. Stored materials in the right-of-way shall be fully barricaded, Type I, II or III, equipped with warning lights. Materials shall not be stored where access to any structure, plot, or road is blocked.

D. Delicate instruments and materials subject to vandalism shall be placed under locked cover and, if necessary, provided with temperature control as recommended by the manufacturer.

PART 5 SAFETY AND CONVENIENCE

5.1 CONSTRUCTION SAFETY PROGRAM

A. CONTRACTOR shall develop and maintain for the duration of this Contract a safety program that will effectively incorporate and implement all required safety provisions. CONTRACTOR shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety program.

- B. Engineer's duty to conduct construction review of the CONTRACTOR's performance is not intended to include a review or approval of the adequacy of the CONTRACTOR's safety supervisor, the safety program or any safety measures taken in, on, or near the construction site.
- C. CONTRACTOR shall do all work necessary to protect the general public from hazards, including, but not limited to, surface irregularities, or unramped grade changes in pedestrian sidewalk or roadway. Barricades, lanterns, and proper signs shall be furnished in sufficient amount to safeguard the public and the work.
- D. The performance of all work and all completed construction, particularly with respect to ladders, platforms, structure openings, scaffolding, shoring, lagging, machinery guards and the like, shall be in accordance with the applicable governing safety authorities.
- E. During construction, CONTRACTOR shall construct and at all times maintain satisfactory and substantial temporary chain link fencing, solid fencing, railing, barricades or steel plates, as applicable at all openings, obstructions, or other hazards in streets, sidewalks, floor, roofs, and walkways. All barriers shall have adequate warning lights, as necessary or required for safety. Type I, II or III barriers shall have a lower horizontal continuous frame member at 17 inches maximum above grade.

5.2 SAFETY EQUIPMENT

CONTRACTOR shall do all work necessary to protect the general public from hazards, including but not limited to, surface irregularities or un-ramped grade changes in pedestrian sidewalk or walkway and trenches or excavations in roadway. Barricades, lanterns, and proper signs shall be furnished in sufficient amount to safeguard the public and the work. All barricades and signs shall be, in the opinion of the Engineer, clean and serviceable.

During construction, CONTRACTOR shall construct and at all times maintain satisfactory and substantial temporary chain link fencing, solid fencing, railing, barricades or steel plates, as applicable, at all openings, obstructions, or other hazards in streets sidewalks, floors, roofs, and walkways. All such barriers shall have adequate warning lights as necessary, or required, for safety. All lights shall be regularly maintained and in a fully operational state, at all times.

No excavations shall remain open at the end of a work day.

Temporary pedestrian access routes shall be provided through or around construction sites. Temporary pedestrian access routes shall include, but not be limited to, sufficiently wide walkways, channelizing devices, continuous railings, temporary ramps, stable, slip-resistant surfaces, and transitions between two surfaces. All pedestrian access routes, including temporary pedestrian access routes, shall be compliant with the American with Disabilities Act standards and guidelines.

Temporary access routes shall protect the pedestrian from vehicular traffic and the work zone area. CONTRACTOR is encouraged to install warning lights and temporary illumination lighting along temporary pedestrian access routes. Proper information signage shall be erected to alert pedestrians of upcoming sidewalk detour, and shall accommodate people with disabilities, including but not limited to, large contrasting lettering and Braille.

Temporary traffic control zone devices, such as barricades, drums, channelizing devices, and signage, shall be provided and installed in accordance with the Manual on Uniform Traffic Control Devices and FDOT Standard Specifications for Road and Bridge Construction. Maintenance of Traffic Plans shall be in accordance with FDOT Design Standards for Design, Construction, Maintenance and Utility Operations of the State Highway System.

5.3 ACCIDENT REPORTS

- A. CONTRACTOR must promptly report in writing to the Engineer all accidents whatsoever arising out of or in connection with the performance of the work whether on or adjacent to the site, giving full details and statements of witnesses. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messenger to the Engineer. Record keeping and incident reporting shall be in accordance with Occupational Safety and Health Administration regulations (29 CFR, Parts 1904 and 1910).
- B. If a claim is made by anyone against the CONTRACTOR or any subcontractor on account of any accident, CONTRACTOR shall promptly report the facts in writing to the Engineer, giving full details of the claim.

5.4 SAFE ACCESS BY FEDERAL, STATE, AND LOCAL GOVERNMENT OFFICIALS

Authorized representatives of the state, federal, or local governmental agencies shall at all times have access to the site. CONTRACTOR shall facilitate agency access to construction sites and allow authorized personnel to observe and make inspection of the work.

5.5 TRAFFIC MAINTENANCE AND SAFETY

- A. Provide traffic maintenance plans where required by federal, state, county, or local agencies having jurisdiction.
- B. Comply with all rules and regulations of the state, county, and city authorities regarding closing or restricting the use of public streets or highways. No public or private road shall be closed, except by express permission of the Owner. Conduct the work so as to assure the least possible obstruction to traffic and normal commercial pursuits. Protect all obstructions within traveled roadways by installing approved signs, barricades, and lights where necessary for the safety of the public. The convenience of the general public and residents adjacent to the project and the protection of person and property are of prime importance and shall be provided for in an adequate and satisfactory manner. Maintenance of Traffic shall be considered incidental to work performed.
- C. Maintenance of Traffic shall be maintained at all construction sites, until the work is either completed or any open trenches have been properly covered and all equipment is properly stored. CONTRACTOR shall maintain MOT signs in good repairs and required MOT lights should be operative at all times. The city inspector shall stop work if MOT is not properly maintained, and there shall not be additional cost to the city for this downtime.
- D. Where traffic will pass over trenches after backfill and before paving, trench restoration shall be maintained, including compaction and grade elevations, in a condition that will allow normal vehicular traffic to pass over. Temporary access driveways must be provided for access to properties and businesses. Cleanup operations shall follow immediately behind backfilling. The worksite shall be kept in an orderly and clean condition.

- E. When certified flaggers and guards are required by regulation, permits, or deemed necessary for safety, flaggers shall be furnished with approved orange wearing apparel and other regulation traffic-control devices. Flaggers shall be certified by State approved agency.

5.6 TRAFFIC CONTROL

- A. Traffic control on all City, County and State highway rights-of-way shall be in accordance with FDOT Design Standards for Design, Construction, Maintenance and Utility Operations of the State Highway System and Manual for Uniform Traffic Control and Safe Practices.
- B. CONTRACTOR shall provide engineered drawings of proposed maintenance of traffic to the Engineer for approval, prior to construction operations.

5.7 PROTECTION OF PROPERTY

- A. Protect stored materials located adjacent to the proposed work. Notify property owners affected by the construction at least 48 hours in advance of the time construction begins. During construction operations construct and maintain such facilities as may be required to provide access by all property owners to their property. No person shall be prevented access to his residence or place of business.
- B. CONTRACTOR shall identify and isolate his work zone, in such a manner to protect and exclude pedestrians and vehicular traffic.

5.8 FIRE PREVENTION AND PROTECTION

CONTRACTOR shall perform all work in a fire-safe manner. He shall supply and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. CONTRACTOR shall comply with applicable federal, state, and local fire-prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241) shall be followed.

5.9 ACCESS FOR POLICE, FIRE, AND POSTAL SERVICE

- A. Notify the City Engineer and City Liaison a minimum of 48 hours before closing any street or portion thereof not already approved at the pre-construction meeting. No closing shall be made without the Owner's approval. Notify said departments when the streets are again passable for emergency vehicles. Do not block off emergency vehicle access to consecutive arterial crossings or dead-end streets, in excess of 300 linear feet, without special written permission from City Engineer. Conduct operations with the least interference to fire equipment access, and at no time prevent such access.
- B. CONTRACTOR shall leave a night emergency telephone number or numbers with the police department, the Engineer, and the Owner, so that contact may be made easily at all times in case of barricade and flare trouble or other emergencies.
- C. Maintain postal service facilities in accordance with the requirements of the U.S. Postal Service. Move mailboxes to temporary locations designated by the U.S. Postal Service, and at the completion of the work in each area, replace them in their original location and in a condition satisfactory to the U.S. Postal Service.

PART 6 PRESERVATION, RESTORATION, AND CLEANUP

6.1 SITE RESTORATION AND CLEANUP

- A. At all times during the work keep the premises clean and orderly. Upon completion of the day's work repair all damage caused by equipment and leave the project clean and free of rubbish or excess materials of any kind.
- B. Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences, regardless of whether these are on private property or on state, county, or city rights-of-way. Remove all excavated materials from grassed and planted areas and leave these surfaces in a condition equivalent to their original condition.
- C. All drainage ditches and culverts shall be reopened and graded and natural drainage restored. Restore culverts broken or damaged to their original condition and location.
- D. Upon completion of pipe laying and backfilling operations hand-rake and drag all former grassed and planted areas, leaving all disturbed areas free from rocks, gravel, clay, or any other foreign material. The finished surface shall conform to the original surface, and shall be free-draining and free from holes, ruts, rough spots, or other surface features detrimental to a sodded, grass area. Sodded areas shall be re-sodded. Damaged landscaping shall be re-planted with equal material or mitigated, as required.

6.2 FINISHING OF SITE, BORROW, AND STORAGE AREAS

Upon completion of the project, all areas used by the CONTRACTOR shall be properly cleared of all temporary structures, rubbish, and waste materials, and properly graded to drain and blend in with the abutting property. Areas used for the deposit of waste materials shall be finished to properly drain and blend with the surrounding terrain.

6.3 STREET CLEANUP DURING CONSTRUCTION

Thoroughly clean all spilled dirt, gravel, or other foreign material caused by the construction operations from all streets and roads, grass, pathways, or concrete walkways and from adjacent areas at the conclusion of each day's operation. Wet concrete is not to be stored, dumped, or placed on the ground or other structures on any city property, at any time. Truck or equipment wash down is not to be performed on city property or allowed to flow into storm drains. Sidewalks, unless under construction, shall be kept clear of material and available for pedestrian use at all times.

6.4 DUST PREVENTION

Give all unpaved or disturbed streets, roads, detours or haul roads used in the construction areas an approved dust-preventive treatment or periodically water to prevent dust. Applicable environmental regulations for dust prevention shall be strictly enforced.

PART 7 SUBMITTALS DURING CONSTRUCTION

7.1 GENERAL

- A. Requirements in this section are in addition to any specific requirements for submittals specified in other sections of these Contract Documents. CONTRACTOR is required to provide a submittal log at the pre-construction conference.
- B. Submittals to the Engineer shall be addressed to:
 - Attn: Doug Bradshaw, Engineering
 - City of Key West
 - P.O. Box 1409
 - Key West, Florida 33041-1409.
- C. Submitted data shall be fully sufficient in detail for determination of compliance with the Contract Documents.
- D. Review, acceptance, or approval of substitutions, schedules, shop drawings, lists of materials, and procedures submitted or requested by the CONTRACTOR shall not add to the Contract amount. All additional costs which may result there from shall be solely the obligation of the CONTRACTOR.
- E. It shall not be the responsibility of the Owner to provide engineering or other services to protect the CONTRACTOR from additional costs accruing from such approvals.
- F. No equipment or material for which listings, drawings, or descriptive material is required shall be installed until the Engineer has on hand copies of such approved lists and the appropriately stamped final shop drawings.
- G. The review of drawings by the Engineer will be limited to general design requirements only and shall in no way relieve CONTRACTOR from responsibility for errors or omissions contained therein. Materials shall meet FDOT Standard Specifications for Road and Bridge Construction (2010).
- H. Submittals will be acted upon by the Engineer, as promptly as possible, and returned to the CONTRACTOR, not later than 20 working days.
- I. Sample of requirements to be included in submittals is:
 - 1. MSDS data forms.
 - 2. Manufacturer's specifications, including materials description and paint system.
 - 3. Suggested spare parts list with current price information.
 - 4. List of special tools required for checking, testing, parts replacement, and maintenance. (Special tools are those which have been especially not customarily and routinely carried by maintenance mechanics.)
 - 5. Samples of finish colors for selection.
 - 6. Special handling instructions.
 - 7. Requirements for storage and protection prior to installation.
 - 8. Requirements for routine maintenance. Three (3) copies of all Maintenance Manuals needed to allow the Owner to operate and/or maintain the installed device.

9. Copy of the manufacturer's warranty on all equipment and material installed, providing for the warranty period to commence on the date of final acceptance by the Owner.
10. All products installed in the project.

J. Submittals shall identify items, units and assemblies in relation to the specification section number and the system or equipment identification or tag number shown on the drawings, or as provided in the application specification section.

K. Should CONTRACTOR propose any item on the shop drawings or incorporate an item into the work that subsequently proves to be defective or otherwise unsatisfactory, regardless of the Engineer's preliminary review, CONTRACTOR shall, at his own expense, replace the item with another item that will perform satisfactorily.

7.2 FINAL SHOP DRAWINGS TO BE SUBMITTED TO OWNER

Complete sets of reproducible final shop drawings shall be submitted to the Owner before delivery of equipment to the site.

7.3 RECORD DRAWINGS

CONTRACTOR shall submit AutoCAD as-built drawings, certified by a Licensed Surveyor, on CD, pdf file and signed and sealed paper copy for this project. Drawings shall be submitted before final completion and payment for the project.

PART 8 PROJECT SIGN

8.1 GENERAL

A. One Project Sign will be required to be constructed, installed, and maintained by the CONTRACTOR. Sign shall be constructed on 4'x4'x3/4" exterior plywood and readable at eye level. The colors to be used are white for the background and black for the lettering. All paint shall be rated outdoor enamel. 14" diameter City Seal will be supplied by Engineering Services. Sign shall be located at the construction site during work. Cost for the sign shall be covered in the Bid Schedule mobilization item.

B. Job Site Bulletin Board: CONTRACTOR shall install and maintain, within the limits of the project, a job site bulletin board for the project duration. CONTRACTOR is required to post five (5) standard posters plus three (3) project specific posters, three (3) U.S. Department of Labor posters, and one American Recovery and Reinvestment Act Whistleblower Poster. The job site bulletin board and posters shall be in accordance with the Florida Department of Transportation EEO Construction Contract Compliance Work Book.

C. CONTRACTOR shall coordinate with the City of Key West to determine the location for the Job Site Bulletin Board.

PART 9 PAYMENT

9.1 GENERAL

A. Payment for the work, including all labor, materials and equipment, in this section will be included as part of the Contract Unit Bid Prices amount stated in the BID. No separate payment shall be paid.

B. Maintenance of Traffic (M.O.T.) shall be considered incidental to the work performed and paid under Mobilization.

C. As-built drawings shall be incidental to the contract price.

* * * * *

SECTION 01010
SUMMARY OF WORK

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Included: Furnishing all materials, equipment and labor for the installation of playground equipment, adult exercise equipment, flexible pavement and sidewalks, landscape and irrigation system, site lighting, and stormwater management system; installation of a manufactured picnic shelter; renovation of the Martin Luther King, Jr. Community Pool entrance and parking area; construction of a parking area along Amelia Street; and construction of a plaza and ADA Accessible restrooms, including but not limited to, the construction and/ or replacement of sidewalks, curbs, gutters, crosswalks, miscellaneous concrete work, asphalt work, landscaping, site clean up, and all necessary appurtenances and incidental work to provide a complete and serviceable project identified as:

NELSON ENGLISH/WILLIE WARD RENOVATION/ENHANCEMENT PROJECT
CITY OF KEY WEST, FLORIDA

CONTRACTOR shall submit a proposed schedule and the completion date for the proposed work with the Bid.

- B. Related requirements in other parts of the Contract Documents: General Conditions of the Contract for Construction.

C. CONTRACTOR's Duties:

1. In addition to provisions stipulated in other portions of the Contract Documents, CONTRACTOR shall:
 - a) Secure permits as necessary for proper execution and completion of the work.
 - b) Give required notices.
2. CONTRACTOR shall be totally responsible for all permits required and shall ensure that construction complies with all applicable local, state, and federal codes.
3. Provide an experienced, qualified, and competent Superintendent to oversee the Work. Prior to starting construction, the proposed Superintendent's qualifications shall be submitted in writing to the City, for approval. The approved Superintendent shall be expected to remain for the duration of the Project, unless the City or Engineer deem him inadequate and requests his removal or CONTRACTOR cannot continue his services to the project for a reason or reasons that shall be communicated to the City. A replacement Superintendent shall be required to follow the same approval process as required for the original. The Superintendent shall provide to the City reports for each day of construction. The reports shall be in English, legible and signed, and include installation quantities and copies of material tickets.

4. It shall be the CONTRACTOR's responsibility to request approval for entrance to the site for work on Saturdays, Sundays, holiday, and weekday hours other than 7:00 am until 7:00 pm. Work shall not begin prior to 8:00 a.m.
5. CONTRACTOR shall provide two copies material safety data sheets (MSDS) for chemicals, paints, coatings and materials used on-site prior to initiation of work.
6. CONTRACTOR shall submit a site Safety and Health Plan as per OSHA 1910.120 prior to initiation of work.

1.02 CONTRACTOR'S USE OF PREMISES

- A. Work shall be scheduled as to not interfere with on-going area activities.
- B. Coordinate use of premises and requirements for security under direction of City.
- C. Assume full responsibility for the protection and safekeeping of products under this Contract, stored on the site.
- D. Obtain and pay for the use of additional storage or work areas needed for operation.
- E. CONTRACTOR shall provide drinking water for construction personnel.
- F. CONTRACTOR shall provide waste solutions for construction personnel.

1.03 MAINTENANCE OF EXISTING UTILITIES OPERATION

- A. Provide at least three weeks notice prior to interruption of utility services for temporary or permanent connections.
- B. Keep interruption of utility services, and utility outages during disconnection, moving, and reconnection to a minimum.
- C. CONTRACTOR shall notify Keys Energy Services (KES) that work will be occurring adjacent to utility infrastructure, and request KES to protect their utility infrastructure, i.e., support power poles adjacent to excavations. Notification shall be made in writing, at least two weeks in advance of excavation operations. No additional payment will be paid for this coordination.
- D. CONTRACTOR shall notify the Florida Keys Aqueduct Authority (FKAA) that this project will require relocation of the water meter and backflow protector, at least two (2) weeks prior to beginning work. CONTRACTOR shall coordinate with the FKAA to relocate the water meter.

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SECTION 01014
ENVIRONMENTAL PROTECTION

PART 1 GENERAL

Contractor shall maintain all work areas within and outside the project boundaries free from environmental pollution that would be in violation to any federal, state, or local regulations.

1.01 RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK

A. General Contractor shall be responsible for conducting all work in such a manner that any and all environmental impacts or damages not specifically authorized by the contract and its controlling State and Federal permits are avoided. Should accidental or incidental damages occur, CONTRACTOR shall be responsible for all corrective measures at CONTRACTOR'S expense. CONTRACTOR shall save and hold harmless the CITY from all such violations. CONTRACTOR shall adhere to the following sections at a minimum in order to avoid such environmental damages. CONTRACTOR shall be responsible for all actions and compliance of any Subcontractors to CONTRACTOR.

B. Permits. CONTRACTOR shall comply with all conditions of the state and federal permits.

C. Environmental Damage. CONTRACTOR shall immediately notify Engineer and City of any environmental damages or violations which may occur during Project mobilization/demobilization and construction.

D. CONTRACTOR shall obtain NPDES permits as required.

1.03 LOCAL SITE CONDITIONS

A. CONTRACTOR shall secure the work area limits from public access. CONTRACTOR shall cordon off resources within the work area that are to be protected. Such resources may include mangroves, upland trees and landscape material, structures, or utilities. CONTRACTOR shall be responsible for the replacement or repair of any damaged resources.

B. CONTRACTOR shall avoid incidental damage to wetlands adjacent to the construction site through constant monitoring and supervision. CONTRACTOR is responsible for any incidental impacts.

- C. At no time shall the CONTRACTOR be permitted to excavate, place fill on, traverse in any way, or place or store any equipment or material on sea grass or hard bottom resources outside the area designated for construction.
- D. CONTRACTOR shall avoid, contain, and control all other potential damages to the local resources including but not limited to fuel, oil, or other chemical or solid waste in the form of leaks, spills, or fugitive materials and trash. In the event of an impact of this type, CONTRACTOR shall take corrective actions immediately. Equipment and leaking products shall be retired until repaired.
- E. CONTRACTOR shall supply communications, sanitary facilities, fresh water, shade structure, and all other necessary actions immediately.
- F. CONTRACTOR shall be responsible for providing and maintaining temporary berms and covers, and approved method with which to handle, carry through, or divert around his work all flows, including storms flows, so as to prevent release of stormwater runoff and silt from entering Outstanding Florida Waters.

1.04 SUPERSEDING REQUIREMENTS

In the event of differences between these requirements, laws, rules or regulations of other State, Federal, or local agencies, the more restrictive laws, rules, or regulations shall apply.

1.05 EXTENT OF FUGITIVE MATERIALS

- A. CONTRACTOR shall control all fugitive materials including trash, chemicals, lubricants, oils, gas, debris, and removed materials as noted above. Fugitive materials as applied herein shall include all materials at the site and along the transit route. In the event of a fugitive materials event, including but not limited to, release due to automobile accidents and all other circumstances, CONTRACTOR shall take immediate corrective actions.
- B. CONTRACTOR shall take sufficient precautions to prevent pollution of waters, with fuels, oils, bitumens, calcium, chloride, or other harmful materials (in accordance with local, State and Federal Requirements). Also, he shall conduct and schedule his operations so as to avoid or otherwise minimize pollution of any waters, and to avoid damage or interference to indigenous plants and organisms.
- C. CONTRACTOR shall comply with NPDES permits.

1.06 GENERAL

- A. CONTRACTOR shall maintain all work areas within and outside the project boundaries free from environmental pollution that would be in violation to any Federal, state, or local regulations.
- B. The work specified in this Section consists of designing, providing, maintaining and removing temporary erosion control and sedimentation controls, as necessary.
- C. Temporary erosion controls include, but are not limited to, silt dams, traps, barriers, and appurtenances at the foot of sloped surfaces, which will ensure that sedimentation pollution will be either eliminated or maintained within acceptable limits, as established by the Owner.
- D. CONTRACTOR is responsible for providing effective temporary erosion and sediment control measures during construction or until final controls become effective.

1.07 PROTECTION OF AIR QUALITY

- A. Air pollution likely to occur due to construction operations shall be minimized by wetting down bare soils during windy periods, requiring the use of properly operating combustion emission control devices on construction vehicles and equipment used by CONTRACTOR, and by encouraging the shutdown of motorized equipment not actually in use.
- B. Trash burning will not be permitted on the construction site.
- C. CONTRACTOR shall provide dust control for any asphalt/concrete removal and during the asphalt milling operations.

1.08 CONSTRUCTION NOISE CONTROL

CONTRACTOR shall conduct all his work, use appropriate construction methods and equipment, and furnish and install acoustical barriers, all necessary so that no noise emanating from the process or any related tool or equipment will exceed legal levels, as set forth in the Code of Ordinances, City of Key West, Florida.

1.09 PAYMENT

Payment for the work in this section shall be included as part of the applicable unit prices stated in the Bid or as included incidental to the contract price.

PART 2 PROTECTION OF SEWERS

Take adequate measures to prevent the impairment of the operation of the existing sewer system. Prevent construction material, pavement, concrete, earth, or other debris from entering a sewer or sewer structure.

PART 3 PROTECTION OF WATERWAYS

- A. Contractor shall observe the rules and regulations of the State of Florida and agencies of the United States Government prohibiting the pollution of stream or river waters by the dumping of any refuse, rubbish, or debris therein.
- B. All sewage flow interfering with construction and requiring diversion shall be diverted to sewers leading to water pollution control plants and shall not be directed to any waterway. Contractor shall not cause or permit any action to occur which would cause an overflow to an existing waterway. Prior to commencing excavation and construction, Contractor shall submit for approval and obtain Owner's approval thereof, of detailed plans showing how he intends to handle and dispose of sanitary, groundwater, and storm water flow. By approving the plan, the Owner does not accept any responsibility for the adequacy thereof, nor for any damages to public or private property resulting therefrom, such responsibilities remaining with Contractor.
- C. Contractor shall be responsible for providing holding ponds or an approved method which will handle, carry through, or divert around his work all flows, including storm flows, so as to prevent excessive silting of waterways of flooding damage to the property.
- D. Contractor shall abide by all Federal, State, City, County permit conditions.

PART 4 DEWATERING

- A. Contractor shall design, construct, maintain, and operate the dewatering system, including cofferdams, channels, flume drain, sumps, pumps, and/or other temporary diversion and protection works, to remove and control water during periods when necessary to properly accomplish Work. Contractor shall furnish all materials required therefore and shall furnish, install, maintain, and operate all necessary pumping and other equipment for the environmentally safe removal and disposal of water from the various parts of the Work. Contractor shall maintain foundations and other parts of the Work free from water.
- B. Prior to beginning work, Contractor shall develop a dewatering plan and submit it to the Engineer and the Owner. Contractor's method for removing water from excavations shall be subject to the approval by the Engineer.
- C. Where excavation extends below the water table, dewatering shall be accomplished in a manner that will prevent loss of fines from the foundation, will maintain stability of the excavated slopes and bottom of the excavation, and will result in all construction operations being performed in the dry. Use of a sufficient number of properly screened wells or other equivalent methods will be approved for dewatering. Contractor shall control seepage along the bottom of the excavation, which may require ditches and pipe drains leading to sumps from which the water shall be pumped. Contractor shall obtain and pay for any and all permits that may be required for the removal and disposal of water from his dewatering operation.
- D. If dewatering requirements are not satisfied due to inadequacy or failure of the

dewatering system, additional work or handling of materials may be required of the Contractor. The supply of labor, materials, equipment, and the performance of all work necessary to carry out additional work resulting from such inadequacy, premature shutdown, or failure of the dewatering system shall be undertaken by the Contractor to the satisfaction of the Engineer, and at no additional expense to the Owner.

- E. Contractor shall obtain discharge permit for water disposal from authorities having jurisdiction, and treat water collected by dewatering operations, as required by regulatory agencies, prior to discharge.
- F. Contractor shall discharge of water as required by discharge permit and in manner that will not cause erosion or flooding, or otherwise damage existing facilities, completed Work, or adjacent property. Drainage of trench water through the pipeline under construction is prohibited.
- G. Contractor shall be responsible for the removal of dewatered solid and silt from the drainage system and right-of-way, and perform other maintenance of the drainage system, as necessary to maintain their efficiency.

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**SECTION 01025
MEASUREMENT AND PAYMENT**

1.1 GENERAL

- A. CONTRACTOR shall receive and accept compensation as provided in the Bid and Contract in full payment for performing all operations necessary to complete the work under the Unit Price and Lump Sum portions of this Contract, and also in full payment for all loss or damages arising from the nature of the work, until the final acceptance by the OWNER.
- B. Unit Prices stated in the Bid shall include all costs and expenses for performing and completing the work as ordered and as shown on Contract Drawings, details, technical specifications, and specified herein. Measurement and payment for an item at a Unit Price or Lump Sum shown in the Bid shall be in accordance with the description of the item in this section.
- C. CONTRACTOR's attention is called to the fact that the quotations for various items of work are intended to establish a total price for completing the work in its entirety. Should the CONTRACTOR feel that the cost for an item has not been established in the Bid, or this section, he shall include the cost for that work in an applicable Bid item, so that this bid reflects his total Unit Prices and Aggregate Sums for completing the work in its entirety. It is the intent of this Contract that the CONTRACTOR provide a completed operating system, and any item required to accomplish this shall be included to establish a total cost.
- D. Unit Price quantities for payment under this Contract shall be determined by actual measurement of completed items, in-place, and ready for service and accepted by the OWNER, in accordance with the applicable method of payment therefore contained herein. CONTRACTOR shall designate and provide a representative to be present at, to witness, and to assist in the making of field measurement of payment.

1.2 MEASUREMENT – GENERAL

- A. Weighing, measuring, and metering devices used to measure quantity of materials for work shall be suitable for the purpose intended and conform to tolerances and Specifications, as specified in National Institute of Standards and Technology, Handbook 44.
- B. Whenever pay quantities of material are determined by weight, the material shall be weighed on scales furnished by CONTRACTOR and certified accurate by the state agency responsible. A weight or load slip shall be obtained from the weigher and delivered to the OWNER'S representative at the point of delivery of the material.
- C. If material is shipped by rail, the car weights will be accepted provided that actual weight of material only will be paid for and not minimum car weight used for assessing freight tariff, and provided further that car weights will not be acceptable for material to be passed through mixing plants.
- D. Vehicles used to haul material being paid for by weight shall be weighed empty daily and at such additional times as required by ENGINEER. Each vehicle shall bear a plainly legible identification mark.

- E. All materials which are specified for measurement by the cubic yard "measured in the vehicle" shall be hauled in vehicles of such type and size that the actual contents may be readily and accurately determined. Unless all vehicles are of uniform capacity, each vehicle must bear a plainly legible identification mark indicating its water level capacity. All vehicles shall be loaded to at least their water level capacity. Loads hauled in vehicles not meeting the above requirements or loads of a quantity less than the capacity of the vehicle, measured after being leveled off as above provided, will be subject to rejection, and no compensation will be allowed for such material.

Units of measure shown on the Bid shall be as follows unless specified otherwise.

Item Method of Measurement

CY	Cubic Yard: Field Measure by ENGINEER within the limits specified or shown
EA	Each: Field Count by ENGINEER
LF	Linear Foot: Field Measure by ENGINEER
LS	Lump Sum: Unit is one; no measurement will be made
SF	Square Foot
SY	Square Yard
Ton	Weight Measure by Scale (2,000 pounds)

1.3 PAYMENT

- A. General: Progress payments will be made monthly on the date established at the preconstruction meeting.
- B. Payment for all Work shown or specified in the Contract Documents is included in the Contract Price. No measurement or payment will be made for individual items except as itemized herein as unit price items or lump sum.

1.4 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

Payment will not be made for following:

1. Loading, hauling, and disposing of rejected material.
2. Quantities of material wasted or disposed of in manner not called for under Contract Documents.
3. Rejected loads of material, including material rejected after it has been placed by reason of failure of CONTRACTOR to conform to provisions of Contract Documents.
4. Material not unloaded from transporting vehicle.
5. Defective Work not accepted by OWNER.
6. Material remaining on hand after completion of Work.

1.5 PARTIAL PAYMENT FOR STORED MATERIALS AND EQUIPMENT

- A. Partial Payment: No partial payments will be made for materials and equipment delivered or stored unless Shop Drawings are acceptable to ENGINEER and materials are properly stored at a site as agreed to by the OWNER.
- B. Final Payment: Will be made only for products incorporated in Work; remaining products, for which partial payments have been made, shall revert to CONTRACTOR unless otherwise agreed, and partial payments made for those items will be deducted from final payment.

**SECTION 01050
FIELD ENGINEERING**

PART 1 SCOPE

1.01 DESCRIPTION

A. Work Included:

Provide survey work if necessary in execution of the Work.

- a. Survey work required in execution of the Work.
- b. Civil, Structural, or other professional engineering services specified or required to execute the CONTRACTOR's construction methods.
- c. Provide final as-builts signed and sealed by a Licensed Surveyor.
- d. Verify existing inverts, rims, grates elevations, basic horizontal and vertical control points for the Project indicated.

B. Related Work:

1. General and Supplementary Conditions of the Contract.
2. Summary of the Work: Section 01010.

1.02 QUALITY ASSURANCE

Qualifications of Surveyor or Engineer: Professional Engineer and/or Surveyor currently licensed in the State of Florida.

1.03 SUBMITTALS

A. Upon request of the City's Engineer, submit documentation to verify accuracy of field engineering work.

B. Submit certificates signed by the Surveyor or Engineer certifying that elevations and locations of the work of this project are in conformance, or non-conformance, with the Contract Documents. An explanation acceptable to the State and US Dept. of Justice will be required to work out of compliance. All work and applications to obtain FDOT approval shall be supplied by the CONTRACTOR.

C. Submit fill, steel, and concrete specifications and test cylinders as requested by engineer.

D. As-built drawings

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXAMINATION AND PREPARATION OF SITE

A. Before starting operations, CONTRACTOR shall examine site of work to acquaint himself with conditions to be encountered.

B. Compare actual site with drawings and specifications.

C. Report discrepancies affecting work or cost thereof to the City.

- D. Verify exact locations of sewers, water mains, gas mains, above or below ground electrical wires and conduits and structures which may interfere with work.
- E. No extra compensation will be allowed for any extra work made necessary due to conditions or obstacles encountered during progress of work which could have been determined by examination of site or by contacting Owners of pipelines and conduits before starting operations.
- F. Comply with State law concerning Sunshine State One Call of Florida, State Statute Title 33, Chapter 556.

3.02 LINES AND GRADES

- A. Prior to staking out work, CONTRACTOR shall establish base line, benchmarks, and control points. CONTRACTOR shall furnish and maintain lines and grades for work.
- B. CONTRACTOR shall take immediate steps to correct errors or inconsistencies in lines and grades of work to be in conformity with Contract Documents.
- C. CONTRACTOR shall be fully responsible for accuracy of lines and grades of work and control and checking and immediate correction of it.

3.03 RESTORATION

- A. Items to remain which are disturbed, damaged, or removed when performing required work or for convenience of CONTRACTOR or to expedite his operations shall be restored, repaired, reinstalled, or replaced with new work and refinished, as appropriate, so as to be left in as good condition as existed before work commenced and such restoration shall be considered incidental to the work.
- B. Sidewalks and pavement replaced or installed shall meet ADA requirements.
- C. Existing items to be altered, extended, salvaged, or relocated and reused, if found to be defective in any way, shall be reported to the City before items are disturbed.
- D. Materials and workmanship used in restoring work shall conform in type and quality to original existing construction.
- E. Provide as-builts and record drawings.

4.0 PAYMENT

Payment for work specified in this section shall be incidental to the Contract Price. Payment shall be considered full compensation for furnishing all labor, materials, and equipment to complete the work as specified under this section.

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**SECTION 01530
BARRIERS**

PART 1 GENERAL

1.01 REQUIREMENTS

Furnish, install, and maintain suitable barriers as required to prevent public entry, and to protect the work, existing facilities, trees, and plants from construction operations; remove when no longer needed, or at completion of work.

1.02 RELATED REQUIREMENTS

Section 01010 Summary of Work.

PART 2 PRODUCTS

2.01 MATERIALS, GENERAL

Materials may be new or used, suitable for the intended purpose, but must not violate requirements of applicable codes and standards.

2.02 FENCING

Minimum fence height shall be four feet. Open-mesh orange plastic fence shall be used to prohibit entry to the construction zone.

2.03 BARRIERS

Materials are CONTRACTOR's option, as appropriate to serve required purpose.

PART 3 EXECUTION

3.01 GENERAL

- A. Install facilities of a neat and reasonably uniform appearance, structurally adequate for the required purposes.
- B. Maintain barriers during entire construction period.
- C. Relocate barriers as required by the progress of construction.

3.02 FENCES

- A. Provide and maintain fences necessary to assure security of the site during construction to keep unauthorized people and animals from the site when construction is not in progress.
- B. Provide additional security measures as deemed necessary and approved by the OWNER.

3.03 TREE AND PLANT PROTECTION

- A. Preserve and protect existing trees and plants at site which are designated to remain, and those adjacent to site.
- B. Consult with the OWNER, and remove agreed-on roots and branches which interfere with construction. Employ a qualified tree surgeon to remove branches and treat cuts.
- C. Protect root zones of trees and plants:
 - 1. Do not allow vehicular traffic or parking.
 - 2. Do not store materials or products.
 - 3. Prevent dumping or refuse or chemically injurious materials or liquids.
 - 4. Prevent puddling or continuous running water.

- D. Carefully supervise excavating, grading and filling, and other construction operations, to prevent damage.
- E. Replace, or suitably repair, trees and plants designated to remain which are damaged or destroyed due to construction operations.

3.04 REMOVAL

- A. Completely remove barricades when construction has progressed to the point that they are no longer needed and when approved by the OWNER.
- B. Repair damage caused by construction. Fill and grade areas of the site to the required evaluations, and clean up the area.

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**SECTION 01700
CONTRACT CLOSEOUT**

PART 1 GENERAL

1.01 REQUIREMENTS

Contract completion includes substantial completion, final inspection after completion, final cleaning, CONTRACTOR's closeout submittals, and final adjustment of accounts.

1.02 SUBSTANTIAL COMPLETION

- A. When CONTRACTOR considers work has reached substantial completion, he shall submit to the Owner the following:
 - 1. Written notice that the work is substantially complete, in accordance with Contract Documents.
 - 2. A list of items yet to be completed or corrected and explanations thereof.
- B. Within a reasonable time upon receipt of such notice, the Owner will make an inspection, if necessary, to determine the status of completion.
- C. Should the Owner determine that the work is not substantially complete:
 - 1. Owner will notify CONTRACTOR, in writing, giving reasons thereof.
 - 2. CONTRACTOR shall remedy deficiencies in the work and send a second written notice of Substantial Completion to the Owner.
 - 3. Upon receipt of the second notice, Owner will re-inspect the work.
- D. When the Owner finds that the Work is substantially complete he will issue a Certificate of Substantial Completion with a tentative list of items to be completed or corrected before final inspection.

1.03 FINAL INSPECTION AFTER COMPLETION

- A. When CONTRACTOR considers the Work is complete with all minor deficiencies completed or corrected, he shall submit written certification that:
 - 1. Contract Document requirements have been met.
 - 2. Work has been inspected for compliance with Contract Documents.
 - 3. Work has been completed, in accordance with Contract Documents.
 - 4. All minor deficiencies have been corrected or completed and the Work is ready for final inspections.
 - 5. Project record documents are completed and submitted.
- B. Within a reasonable time upon receipt of such certification, the Owner will make an inspection to verify the status of completion.
- C. Should the Owner determine that the work is incomplete or defective:
 - 1. Owner will promptly notify CONTRACTOR, in writing, listing incomplete or defective work.
 - 2. CONTRACTOR shall remedy deficiencies in the work and send a second written certification to Owner notification that the work is complete.
 - 3. Upon receipt of second certification, Owner will re-inspect the Work.

- D. When Owner determines that the work is acceptable, under the Contract Documents, he shall request the CONTRACTOR to make closeout submittals.

1.04 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean site of debris and unused materials. Sweep paved areas and rake clean other surfaces.
- C. Remove waste and surplus materials, rubbish, and construction facilities and equipment from the project site.

1.05 CONTRACTOR'S CLOSEOUT SUBMITTALS

- A. Project Record Documents
 - 1. At Contract Closeout, submit documents with transmittal letter containing date, project title, CONTRACTOR's name and address, list of documents, and signature of CONTRACTOR.
 - 2. Drawings legibly marked to record actual constructions. Horizontal and vertical locations of underground utilities and appurtenances shall be referenced to permanent surface improvements.
 - 3. Specifications and addenda, legibly mark each section to record.
 - 4. Changes made by Field Order or by Change Order.
- B. Evidence of payments and Release of Liens.

1.06 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit a final statement of accounting to Owner.
- B. Statement shall reflect all adjustment to the Contract Sum.
 - 1. Original Contract sum.
 - 2. Additions and deductions resulting from:
 - a. Previous change orders or written amendment
 - b. Allowances
 - c. Unit prices
 - d. Deductions for uncorrected work
 - e. Deductions for liquidated damages
 - f. Other adjustments
 - 3. Total contract sum, as adjusted
 - 4. Previous payments
 - 5. Sum remaining due

PART 2 PRODUCTS (not used)

PART 3 EXECUTION (not used)

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DIVISION 2

SITE WORK

**SECTION 02221
TRENCH EXCAVATION AND BACKFILL**

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section covers the work necessary for the trench excavation and backfill, complete.
- B. Trenches in existing paved areas shall be backfilled to the level of the bottom of the base course. Installations of base course and payment shall be as specified in Section SURFACE RESTORATION.
- C. When a trench is backfilled and ready for final pavement it shall be overlaid with cold patch asphalt until milled and removed the day of final paving. The cost is as included in the unit price for TRENCH EXCAVATION AND BACKFILL.

1.2 TRENCH EXCAVATION

Excavation is unclassified. Complete all excavation regardless of the type of materials encountered. CONTRACTOR shall make own estimate of the kind of extent of the various materials, which will be encountered in the excavation.

It is the CONTRACTOR's responsibility to comply with the laws to comply with the laws and regulations pertaining to the Florida Trench Safety Act. Any and all costs for engineering, materials, labor, and administrative costs shall be included in the Bid cost for that line item.

1.3 RELATIVE COMPACTION

"Relative compaction" is defined as the ratio, in percent, of the as-compacted field dry density to the laboratory maximum dry density as determined by ASTM D1557. Corrections for oversize material may be applied to either the as-compacted field dry density or the maximum dry density, as determined by the Engineer.

1.4 OPTIMUM MOISTURE CONTENT

"Optimum moisture content" shall be determined by the ASTM Standard specified to determine the maximum dry density for relative compaction. Field moisture content shall be determined on the basis of the fraction passing the 3/4-inch sieve.

1.5 SUBMITTALS

Submittals shall be made for all products listed in accordance with the requirements specified in Section GENERAL REQUIREMENTS.

PART 2 PRODUCTS

2.1 FOUNDATION STABILIZATION

Foundation stabilization shall be 2-1/2-inch minus crushed rock, with reasonably well gradation from coarse to fine, and free from excessive dirt or other organic material with no more than 20 percent by weight passing the No. 200 sieve.

2.2 TRENCH BACKFILL

Backfill above the pipe zone shall be limerock material for base and stabilized base meeting the requirements of Sections 901, 902, and 911 of the FDOT Specifications for Road and Bridge Construction (2010). Limerock backfill may be excavated trench material if the CONTRACTOR screens or sieves the material and removes organics and foreign materials to this specification and maintains moisture content as specified herein.

2.3 WATER FOR TRENCH BACKFILL

CONTRACTOR shall make all arrangements for a source of water and bear all costs for the delivery of the water to the trench side.

2.4 COMPACTION EQUIPMENT

A. Compaction equipment shall be of suitable type and adequate to obtain the amount of compaction specified. Compaction equipment shall be operated in strict accordance with the manufacturer's instructions and recommendations and shall be maintained in such condition that it will deliver the manufacturer's rated compactive effort.

B. Plate Tamper shall be sized for maximum of 24" lifts, or sized appropriately for the lift size.

2.5 GRASSING

All grassed areas that have been damaged by trench excavation shall be sodded with bahiagrass sod, as specified in Section 02930 FINISH GRADING AND GRASSING.

PART 3 EXECUTION

3.1 PREPARATION OF RIGHT-OF-WAY

CONTRACTOR shall perform all clearing necessary for the proper installation of all utility lines, structures, and appurtenances in the locations shown on the Drawings. All utility poles or structures subject to damage resulting from excavation shall be protected during construction and restored to original condition upon completion of the work.

3.2 DISPOSAL OF CLEARED MATERIAL

A. CONTRACTOR shall bear all costs of disposing of trees, stumps, brush, roots, limbs, and other waste materials from the clearing operation. Material shall be disposed of in such a manner as to meet all requirements of state, county, and local regulations regarding health, safety, and public welfare.

B. In no case shall any material be left on the project, shoved onto abutting private properties, or be buried in embankments or trenches on the project.

3.3 OBSTRUCTIONS

A. This item refers to obstructions which may be removed and do not require replacement. Remove obstructions within the trench area or adjacent thereto, such as tree roots, stumps, abandoned piling, buildings and concrete structures, logs, and debris of all types without additional compensation. Engineer may, if requested, make changes in the trench alignment to avoid major obstructions if such alignment changes can be made within the easement or right-of-way without adversely affecting intended function of the facility. CONTRACTOR

shall pay all additional costs or credit Owner for any savings resulting from such alignment changes.

- B. Dispose of obstructions removed from the excavation, in accordance with Paragraph 3.2 DISPOSAL OF CLEARED MATERIAL.

3.4 PAVEMENT, CURB, AND SIDEWALK REMOVAL

Cut all bituminous and concrete pavements, regardless of the thickness, and all curbs and sidewalks prior to excavation of the trenches with an approved pavement saw, hydrohammer, or approved pavement cutter. Width of the pavement cut shall be at least equal to the required width of the trench at ground surface. Pavement and concrete materials removed shall be hauled from the site and not used for trench backfill.

3.5 BRICK REMOVAL

Carefully remove all bricks encountered during excavation. CONTRACTOR shall salvage all bricks and deliver them to the City depository at the direction of the Engineer. CONTRACTOR shall make arrangements with the City a minimum of 48 hours in advance of delivery of the bricks. This work shall be considered incidental.

3.6 TRENCH WIDTH

- A. Minimum width of unsheeted trenches in which pipe is to be laid shall be 18 inches greater than the inside diameter of the pipe, or as approved. Sheet piling requirements shall be independent of trench widths.
- B. Maximum width at the top of the trench will not be limited, except where excess width of excavation would cause damage to adjacent structures, lanes of traffic or property.
- C. Confine trench widths to dedicated rights-of-way or construction easements, unless special written agreements have been made with the affected property owner.

3.7 GRADE

- A. Excavate the trench to the lines and grades shown or as established by the Engineer with proper allowance for pipe thickness and for pipe base or special bedding when required. If the trench is excavated below the required grade, correct any part of the trench excavated below the grade at no additional cost to the Owner, with limerock of the type specified for pipe bedding. Place limerock over full width of trench in compacted layers not exceeding 6 inches deep to the established grade with allowance for the pipe base or special bedding.
- B. It shall be the CONTRACTOR's responsibility to make exploratory excavations, as required to verify type location, size, and elevation of existing utilities that may interfere with installation of infrastructure, prior to commencing work. CONTRACTOR shall perform this work well in advance of trenching and pipe laying. CONTRACTOR shall call the appropriate utility locate service provider, and shall not commence work until all utilities have been located.

3.8 SHORING, SHEETING, AND BRACING OF TRENCHES

Sheet and brace the trench when necessary to prevent caving during excavation in unstable materials, or to protect adjacent structures, property, workers, and the public. Increase trench

widths accordingly by the thickness of the sheeting. Maintain sheeting in place until the pipe has been placed and backfilled at the pipe zone. Shoring and sheeting shall be removed, as the backfilling is done, in a manner that will not damage the pipe or permit voids in the backfill. All sheeting, shoring, and bracing of trenches shall conform to the safety requirements of the federal, state, or local public agency having jurisdiction. The most stringent of these requirements shall apply.

3.9 LOCATION OF EXCAVATED MATERIALS

During trench excavation, place the excavated material only within the construction easement, right-of-way, or approved working area. Do not obstruct any private or public-traveled roadways or streets. Conform to all federal, state, and local codes governing the safe loading of all trenches with excavated material.

3.10 REMOVAL OF WATER

- A. Due to the nature of the island, tide water may be a significant detriment to placing fill. CONTRACTOR may find it helpful to schedule the time of work based on tide elevations.
- B. Provide and operate equipment adequate to keep all excavations and trenches free of water. Remove all water during periods when concrete is being deposited, when pipe is being laid, during the placing and compaction of backfill and at such other times as required for efficient and safe execution of the work. Avoid settlement or damage to adjacent property. Dewater open excavations from outside the structural limits and from a point below the bottom of the excavation. Design and operate dewatering systems to prevent removal of fines from existing ground.
- C. Drainage of trench water through the pipeline under construction is prohibited.
- D. CONTRACTOR shall dispose of all water removed from the dewatering systems and excavations in a manner that is acceptable to the Owner and to all regulatory agencies. CONTRACTOR shall be responsible to obtain at his expense all permits required for dewatering and disposal of water.
- E. Prior to beginning work, CONTRACTOR shall develop a dewatering method and submit it to the Engineer and the Owner. CONTRACTOR's dewatering method shall take into account limitations in the existing operating conditions of the Owner's storm drainage system. Final acceptance of the CONTRACTOR's dewatering method will be based on demonstrated performance of the system to satisfy the requirements of dewatering as specified herein. If CONTRACTOR's dewatering plan does not prove adequate, CONTRACTOR shall revise his plan and provide adequate dewatering equipment, at NO additional cost to the Owner.
- F. If CONTRACTOR proposes to discharge water into the stormwater drainage system, CONTRACTOR shall provide an acceptable plan that includes provisions to prevent excess silt, sand or trench materials from entering the system. CONTRACTOR shall protect and clean the drainage system, at no additional cost to the Owner.
- G. CONTRACTOR shall be responsible and bear the cost for any breakdowns and associated repair costs.

- H. If the dewatering requirements are not satisfied due to inadequacy or failure of the dewatering system, then loosening of the foundation material, instability of the slopes or damage to the foundations or structures may occur, or other additional work or handling of materials may be required of the CONTRACTOR. The supply of all labor, materials, and equipment, and the performance of all work necessary to carry out additional work resulting from such inadequacy, premature shutdown, or failure of the dewatering system shall be undertaken by the CONTRACTOR to the satisfaction of the Engineer, and at no additional expense to the Owner.
- I. Dewatering shall be considered incidental to the construction and included in the applicable unit prices stated in the Bid.

3.11 FOUNDATION STABILIZATION

When, in the opinion of the Engineer, the existing material in the bottom of the trench is unsuitable for supporting the pipe, excavate below the flow line of the pipe, as directed by the Engineer. Backfill the trench to subgrade of pipe base with foundation stabilization material specified herein before. Place the foundation stabilization material over the full width of the trench and compact in layers not exceeding 6 inches deep to the required grade.

3.12 PIPE BASE AND PIPE ZONE BACKFILL

Pipe base and pipe zone backfill are included in specification for Storm Drain Paragraph 2.6.

3.13 TRENCH BACKFILL ABOVE PIPE ZONE

- A. In trenches under all structures, sidewalks, roads, parking areas, piping, and similar facilities, except where specifically shown, deposit limerock backfill material conforming to Paragraph 2.2 TRENCH BACKFILL in horizontal lifts not exceeding 12 inches in uncompacted thickness. Compact to not less than 98 percent relative compaction. If compaction requirements are not met, the thickness of the uncompacted horizontal lifts shall be reduced, as directed by the Engineer. Repair any subsequent damage caused by settlement of trenches, at CONTRACTOR's sole expense. Under no circumstances allow sharp, heavy pieces of material to drop directly onto the pipe or the tamped material around the pipe. Do not use backfill material of consolidated masses larger than 6 inches in diameter.
- B. Where backfill is placed in water, use #57 crushed stone backfill, at no additional cost to the Owner.
- C. All backfill, including limerock and #57 stone, must be vibrated in 12" lifts to achieve 98% compaction and consolidation to a point where rock does not settle.

3.14 UTILITY LINE CROSSINGS

#89 pea rock or #57 crushed stone shall be used under all culverts, gas, gravity sewer lines, force mains, buried telephone conduit, and any other miscellaneous buried pipelines that cross the excavated trench. #89 pea-rock shall be used under and around water lines and water mains that cross the excavated trench. Crushed stone backfill shall be carried a minimum of 2 feet beyond the edge of the buried utility. Crushed stone backfill beneath these facilities shall be considered incidental to the work and no additional payment will be made to the CONTRACTOR.

3.15 MAINTENANCE OF TRENCH BACKFILL

- A. Maintain the backfilled trench surface between any two successive manholes or structures until the following operations have been completed and approved by the Engineer.
 - 1. Service connections installed and backfilled;
 - 2. Construction of manholes and appurtenances;
 - 3. Valves, valve boxes, and hydrants installed;
 - 4. Cleanup and restoration of all physical features;
 - 5. Utilities restored to their original condition or better; and
 - 6. All work required between the two manholes accomplished until of repaving.
- B. This maintenance shall include, but not be limited to, the addition of crushed rock backfill material and cold patch to keep the surface of backfilled trenches reasonably smooth, free from ruts and potholes, and suitable for normal traffic flow.
- C. No additional payment will be made for the maintenance of the trench backfill prior to completion of the work outlined above.
- D. No pavement replacement shall be undertaken until all items outlined above have been completed and approved by the Engineer.

3.16 DISPOSAL OF EXCESS EXCAVATED MATERIAL

CONTRACTOR shall remove and dispose of all excess excavated materials that are not to be incorporated into the work, immediately. CONTRACTOR shall make arrangements for disposal and bear all costs or retain any profit incidental to such disposal.

3.17 BLASTING

No blasting of any kind will be permitted.

3.18 SETTLEMENT

Any settlement noted within ten (10) feet from fill and within the five-year warranty period, or in accordance with the General Conditions, will be considered to be caused by improper stabilization or compaction methods and shall be corrected, at no cost to the Owner. Structures damaged by settlement shall be restored to their original condition by CONTRACTOR, at no cost to the Owner.

3.19 MOISTURE CONTROL

- A. During all compacting operations, maintain optimum practicable moisture content required for compaction purposes in each lift of fill. Maintain moisture content uniform throughout the lift. At the time of compaction, the water content of material shall be at optimum moisture content, plus or minus 2 percentage points.
- B. Insofar as practicable, add water to the material at the site of excavation. Supplement, if required, by sprinkling the fill.
- C. Do not attempt to compact fill material that contains excessive moisture. Aerate material by blading, discing, harrowing, or other methods, to hasten the drying process.

3.20 TESTING

Field Density and Moisture Tests: Independent Testing Laboratory will determine in-place density and moisture content, by any one or combination of the following methods:

- ASTM D2922, D1556, D2216, or other methods selected by the Engineer. Cooperate with this testing work by leveling small test areas as designated.

Test areas shall be backfilled at CONTRACTOR's sole expense. One (1) field density moisture test per trench, with additional every 50 feet, if found that any part of the intersection does not meet compaction requirements. Additionally, a Vibratory Test shall be performed every 50 feet in rock back fill. Should any settlement occur, testing shall be performed every ten (10) feet. Any section found not meeting the requirements shall be removed for ten (10) feet on either side of the failed tests and be reinstalled in six-inch lifts. Any lift of fill may be tested at any time, location, or elevation. See Section 01500 TESTING SERVICES.

PART 4 PAYMENT

4.1 GENERAL

- A. Payment for work specified in this section will be made at the unit prices stated in the BID and shall be included under the following items. Computation of quantities will be as indicated for each item and will be based upon measurements made by the Engineer.
- B. Testing agencies costs are incidental to the contract.

4.2 TRENCH EXCAVATION AND BACKFILL

- A. Work under this item for storm sewer pipe will be paid for on a linear foot basis, for the depth of the trench from the original ground surface to the flow line of the pipe. Payment per linear foot will be the amount stated in the BID. Depth figures indicated in the BID are inclusive to the nearest 0.1-foot. A trench depth measured as 11.9 feet will be paid for at the unit price for excavation 10 to 12 feet deep. A trench depth measured as 12.0 feet will be paid for at the unit price for at the unit price for excavation 12 to 14 feet deep.
- B. Length of trench will be measured horizontally from center-to-center of structures, or inlets, or to the end of the pipe, whichever is applicable. Depth of the trench will be measured from the ground surface at the centerline of the trench to the invert of the pipe. Depth of the trench will be measured at intervals of 25 feet along the centerline of the trench. The depth of each measuring point will be the depth used for computing the depth of trench for a distance of 25 feet ahead of the point of measurement. Payment for this item shall cover all materials, including limerock backfill, and all work specified herein, or not specifically paid for in other sections, except foundation stabilization, and sheeting left in place, which will be paid for as other separate items. Pipe base and pipe zone backfill will be paid for under section STORM DRAIN.
- C. Price per linear foot shall be for any type of material to be excavated and shall include any extra excavation required to provide space for pipe base specified under section STORM DRAIN.

4.3 FOUNDATION STABILIZATION

Payment for this item will be based on the unit price per cubic yard stated in the Bid. Measurement will be based upon individual trip tickets of actual truck measure furnished the Engineer for cubic yards used under this item. Trip tickets shall be presented to the Engineer for signature on the day the material is delivered. No payment will be allowed on trip tickets not so validated by the Engineer. Payment for this item shall constitute full compensation for all materials, labor, equipment, and incidentals necessary trench and for the extra depth of trench excavation required below the pipe base grade to provide for a stable base for the pipe. This item is to provide for unstable base encountered in the progress of the work and shall be used only under the direction of the Engineer.

4.4 TRENCH SAFETY SYSTEMS

- A. Payment for compliance with OSHA Trench Safety System will be based on the unit price per linear foot stated in the Bid, when a trench safety system is used.
- B. Payment for special-shoring requirements for the trench safety system will be based on the unit price per square yard in the Bid.

4.5 GRASSING

All grassing shall be by sodding. Payment for this item shall be based on the unit price per square foot stated in the BID.

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SECTION 02555
ASPHALT CONCRETE PAVEMENT

PART 1 SCOPE

1.1 WORK INCLUDED

This section covers the work necessary for the construction of the asphalt pavement overlay and incidental work, complete.

1.2 GENERAL

See **CONDITIONS OF THE CONTRACT** and **GENERAL REQUIREMENTS**, which contain information and requirements that apply to the work specified herein and are mandatory for this project.

1.3 STANDARD SPECIFICATIONS

Where the term "Standard Specifications" is used, such reference shall mean the current edition of Florida Department of Transportation Standard Specification for Road and Bridge Construction. Where reference is made to a specific part of the Standard Specifications, such applicable part shall be considered as part of this section of the Specifications. In case of a conflict in the requirements of the Standard Specification and the requirements stated herein, the requirements stated herein shall prevail.

1.4 SUBMITTALS

Certificates:

- A. Prior to the delivery of asphalt materials and paving mixes to the site, that **CONTRACTOR** shall submit certificates and test results of compliance of such materials with these Specifications.
- B. Where laboratory testing is certified herein, **CONTRACTOR** shall employ an independent testing laboratory to conduct such tests and submit certificates of the test results to ensure Specification conformance.
- C. Costs for submittals shall be included in the price(s) quoted for the work under this section.

PART 2 MATERIALS

2.1 GENERAL

- A. Materials for an existing base course and asphalt surfacing shall conform to the Standard Specification, as modified herein.
- B. **CONTRACTOR** will be responsible for furnishing satisfactory materials that meet the Specifications and shall make such tests during the course of the work as are necessary, to assure that the quality of the materials used meets the Specifications.

2.2 RELATIVE COMPACTION

"Relative Compaction" is defined as the ratio, in percent, of the as-compacted field dry density to the laboratory maximum dry density as determined by ASTM D1557. Corrections for oversize

material may be applied to either the as-compacted field dry density or the maximum dry density, as determined by the Engineer.

2.3 OPTIMUM MOISTURE CONTENT

“Optimum Moisture Content” shall be determined by the ASTM standard specified to determine the maximum dry density for relative compaction. Field moisture content shall be determined on the basis of the fraction passing the 3/4-inch sieve.

2.4 LIMEROCK BASE COURSE

Aggregate quality and gradation shall conform to Section 911 of the FDOT Standard Specification for Road and Bridge Construction.

2.5 IMPORTED BASE COURSE ACCEPTANCE

Imported base course materials specified in this section are subject to the following requirements:

- A. All tests necessary for the CONTRACTOR to locate an acceptable source of imported material shall be made by the CONTRACTOR. Certification that the material conforms to the Specification requirements along with copies of the test results from a qualified commercial testing laboratory shall be submitted to the Engineer for acceptance at least 10 days before the material is required for use. All material samples shall be furnished by the CONTRACTOR at the CONTRACTOR's sole expense. Samples shall be representative and be clearly marked to show the source of the material and the intended use on the project. Sampling of the material source shall be done by the CONTRACTOR in accordance with ASTM D75. Notify the Engineer at least 24 hours prior to sampling. Engineer may, at the Engineer's option, observe the sampling procedures. Tentative acceptance of the material source shall be based on an inspection of the source by the Engineer and/or the certified test results submitted by the CONTRACTOR to the Engineer, at the Engineer's discretion. No imported material shall be delivered to the site until the proposed source has been tentatively accepted in writing by the Engineer. Final acceptance will be based on tests made on samples of material taken from the completed and compacted course. Completed course is defined as a course or layer that is ready for the next layer or the next phase of construction.
- B. Gradation tests by the CONTRACTOR shall be made on samples taken at the place of production prior to shipment. Samples of the finished product for gradation testing shall be taken from each 1,500 tons of prepared materials or more often as determined by the Engineer, if variation in gradation is occurring, or if the material appears to depart from the Specifications. Test results shall be forwarded to Engineer within 48 hours after sampling.
- C. If tests conducted by the CONTRACTOR or the Engineer indicate that the material does not meet Specification requirements, material placement will be terminated until corrective measures are taken. Material which does not conform to the Specification requirements and is placed in the work shall be removed and replaced at CONTRACTOR's sole expense. Sampling and testing performed by CONTRACTOR shall be done at CONTRACTOR's sole expense.

2.6 BITUMINOUS PRIME AND TACK COAT

- A. Prime Coat: Material shall be cutback asphalt, Grade RC-70 or RC-250 meeting DOT Specification 916-2, or other material acceptable to the Engineer and meeting DOT Specifications.

- B. Tack Coat: Material shall be emulsified asphalt, Grade RS-2, SS-1, or SS-1H meeting requirements of DOT Specification 916-4.

2.7 ASPHALT CONCRETE

- A. Asphalt concrete for surfacing the designated area shall be Type SP-9.5, SP-12.5 and FC-9.5, FC-12.5 hot-plant mix. All materials shall conform to the requirements of FDOT Specifications Section 334. Portions of the referenced specification that are not applicable for the type of work to be done shall be disregarded.
- B. Asphalt Concrete for leveling shall be Type SP-9.5 or SP-12.5 hot-plant mix, conforming to the requirements of FDOT Specifications Section 334.
- C. Aggregate: Asphalt concrete aggregate shall meet the requirements of the Standard Specifications.
- D. Submit test results from a commercial testing laboratory to the Engineer to show that the materials meet the quality and gradation requirements.
- E. Submit to the Engineer mix designs for each type of asphalt from each plant.
- F. Extension Grade Rings: Extension grade rings shall be steel or cast iron, with ground surfaces and a minimum height of 1 inch to match manhole cover size.

PART 3 WORKMANSHIP

3.1 REMOVAL OF EXISTING BITUMINOUS SURFACE

- A. ASPHALTIC CONCRETE: Asphaltic concrete surfaces shall be removed from the base prior to the excavation of trenches or scarifying of the rock. Materials to be disposed shall be removed from the right-of-way, to areas provided by the CONTRACTOR.
- B. BITUMINOUS SURFACE TREATMENT: Existing bituminous surface treatment shall be removed and disposed of, or if directed by the Engineer the surfacing can be mixed in with the existing limerock material.

3.2 REWORKING LIMEROCK BASE

Reworking limerock base shall be performed in accordance with Section 210.1 through Section 210.7 of the Standard Specifications.

- A. Where there is insufficient base material present, new limerock material shall be supplied in conformance with Section 210.2 of the Standard Specifications.
- B. Brick pavers removed during the work shall remain the property of the Owner. CONTRACTOR will separate them from all other excavated material and deposit them at a location to be specified by the Engineer.

3.3 COMPACTION

- A. Compaction of each layer of base shall be performed in accordance with Section 200 of the Standard Specifications.

- B. Compaction equipment must be adequate in design to provide compaction and obtain the specified density for each layer. Water shall be applied as needed to obtain the specified densities at the CONTRACTOR' sole expense.
- C. In-place density and moisture content will be determined by any one or combination of the following methods: ASTM D2922, D1556, D2216, or methods selected by the Engineer. Cooperate with this testing work by leveling small test areas designated. Backfill test areas at CONTRACTOR's sole expense. The frequency and location of testing shall be per Section 200-6.4 of the Standard Specifications or as directed by the Engineer.

3.4 PREPARATION OF ROADWAY TO BE OVERLAYED

Before construction of the asphalt pavement overlay over roadways to be surfaced, all fatty asphalt patches, grease drippings and other objectionable matter shall be entirely removed from the pavement. Areas to be surfaced shall be thoroughly cleaned by sweeping to remove dust and other foreign matter.

Leveling Course:

- A. Engineer will determine which areas to be surfaced that will require a leveling course. Engineer will then designate these areas so the CONTRACTOR could place a leveling course over them.
- B. CONTRACTOR shall place a layer of tack coat at a rate of 0.05 to 0.12 gallons per square yards over all areas requiring a leveling course.
- C. Place sufficient leveling course material over the areas designated by the Engineer to eliminate all depressions and to provide positive drainage over the full width of the roadway overlaid. CONTRACTOR shall place and compact the leveling course in accordance with Section 330 of the Standard Specifications.

3.5 CONSTRUCTION OF ASPHALT CONCRETE PAVEMENT OVERLAY

- A. CONTRACTOR shall place a layer of tack coat at a rate of 0.05 to 0.12 gallons per square yard over all areas to receive asphalt concrete.
- B. Lay asphalt concrete over all areas designated to be resurfaced. Asphalt concrete pavement overlay shall be placed in a single-lift to a compacted depth of 1 inch. Asphalt concrete pavement shall be placed in one or more courses to a compacted depth of 2-inches or as directed by the City Engineer. Method of proportioning, mixing, transporting, laying processing, rolling the material, and the standards of workmanship shall conform to the applicable requirements of Sections 320, 330, and 334 of FDOT Standard Specifications. At no time shall the coarse aggregate become segregated from the mix, either from hand spreading or raking of joints. Base material shall not be placed on pavement.
- C. Engineer will examine the prepared roadway before the paving has begun and bring any deficiencies to the CONTRACTOR's attention, to be corrected before paving. Roll each lift of asphalt concrete and compact to density specified in the FDOT Standard Specifications. Grade line and cross section of finished surface shall conform to the Drawings. Asphalt or asphalt stains which are noticeable upon surfaces of concrete or materials which will be exposed to view shall be promptly and completely removed and corrected.

3.6 CONNECTIONS WITH EXISTING ASPHALT

- A. Where the asphalt is to be connected with an existing roadway surface or other facility, the CONTRACTOR shall be required to modify the existing roadway profile in such a manner as to produce a smooth riding connection to the existing facility.
- B. Where it is necessary to remove existing asphalt surfaces or oil mat surfaces to provide proper meet lines and riding surfaces, CONTRACTOR shall mill the existing surface so that there will be sufficient depth to provide a minimum of 2-inch of asphalt concrete, and the waste material shall be disposed of to the satisfaction of the Engineer. Prior to placing asphalt concrete, these areas shall be tacked. Meet lines shall be saw cut straight and edges shall be vertical. The edges of meet line cuts shall be painted with tack coat material prior to placing asphalt concrete. After placing the asphalt concrete, the meet line shall be sealed by painting with a tack coat material and immediately covered with clean, dry sand.

3.7 SURFACE TOLERANCE NEW ASPHALT CONCRETE

- A. Tests for conformity with the specified grade shall be made by CONTRACTOR immediately after initial compression. Any variation shall be immediately corrected by the removal or addition of materials and by continuous rolling.
- B. Completed surface of pavement shall be of uniform texture, smooth, uniform as to grade, and free from defects of all kinds. Completed surface shall not vary more than 1/8-inch from the lower edge of a 10-foot straightedge placed on the surface along the centerline or across the trench. Cross slope shall be uniform and in compliance with the design cross slope. Difference between measured cross slope and design cross slope shall not exceed 0.2%.
- C. After completion of final rolling, smoothness and grade of the surface shall again be tested by CONTRACTOR.
- D. Deficiencies in excess of the above tolerances shall be corrected immediately, in accordance with Section 330-12.5 of the FDOT Standard Specifications for Road and Bridge Construction.
- E. Areas in which the surface of the completed pavement deviates more than twice the allowable tolerance described above shall be removed and replaced to the satisfaction of the Engineer.
- F. All costs involved in making the corrections of defects described above shall be borne by the CONTRACTOR. No compensation shall be allowed for this work.

3.8 SAMPLES

If directed by the Engineer, CONTRACTOR shall without additional charge, provide the Engineer with test results of samples of asphalt concrete cut from the completed pavement or the individual courses thereof. Provide a minimum of three test cores located as directed by the Engineer. He shall also provide the Engineer with test results of samples of the uncompressed asphalt concrete mixtures, and all materials incorporated into the work.

3.9 WEATHER CONDITIONS

Asphalt mixtures shall not be placed while rain is falling, or when there is water on the surface to be covered. Once rain has stopped and water has been removed from the tacked surface to the satisfaction of the Engineer and the temperature of the mixture caught in transit still meets the requirements as specified in Section 330-9.1.2, CONTRACTOR may then begin asphalt placement.

3.10 PROTECTION OF STRUCTURES

Provide whatever protective coverings may be necessary to protect the exposed portions of bridges, fences, buildings, walls, culverts, curbs, gutters, posts, guard fences, road signs, and any other structures from splashing oil and asphalt from the paving operations. Remove any oil asphalt dirt, or any other undesirable matter that may come upon these structures by reason of the paving operations.

3.11 UTILITY APPURTENANCE EXTENSIONS:

- A. Where valve boxes, manholes, catch basins, inlets or other appurtenances are within the area to receive asphalt concrete pavement overlay, these appurtenances shall be raised so their top is level with the finished elevation or the overlay layer. Consider any delays or costs experienced from such obstructions as incidental to the paving operation. Protect all covers during asphalt application.
- B. When valve boxes, manholes, catch basins, inlets or other appurtenances are raised, asphalt concrete pavement will be saw cut and removed a minimum of one foot from the excavated area. The excavated area will be backfilled and compacted with crushed lime rock, in accordance with Paragraph 2.4 LIMEROCK BASE COURSE and Paragraph 3.3 COMPACTION. Density testing will be required at all locations or as directed by Engineer, where appurtenances are raised and backfilled as above. CONTRACTOR may opt to backfill the excavated areas with a minimum of 6 inches of 4000 psi concrete.
- C. Place manhole ring extensions on all manholes. If one-inch ring extensions are not available for the existing cover size, CONTRACTOR shall install an extender the next nominal size higher and taper the asphalt overlay at a rate of 20:1 or 5 percent, to match the adjacent roadway. Manholes may be raised with appropriate extension rings with approval from the authority having jurisdiction.

3.12 CLEANUP

Immediately clean up all debris and unused material from the paving operation. Clean all surfaces that have been spattered or defaced as a result of the paving operation.

3.13 EXCESS MATERIALS

Dispose of all excess materials outside the limits of the project. Make arrangements for the disposal and bear all costs or retain any profit incidental to such disposal.

PART 4 PAYMENT

4.1 GENERAL

Disregard all references to method of payment in the referenced FDOT Standard Specifications for Road and Bridge Construction.

4.2 ASPHALT CONCRETE PAVEMENT OVERLAY

- A. Payment for the asphalt concrete pavement overlay will be made at the unit price per ton of concrete asphalt stated in the CONTRACTOR's Bid, and shall constitute full compensation for milling pavement connections, furnishing and applying the tack coat, furnishing, laying, and compacting the leveling course and asphalt concrete. Measurement for payment will be based on the number of tons (2,000 pounds) of asphalt concrete incorporated in the pavement, as weighed on tested scales. Present trip ticket to the Engineer for signature as the material is delivered. Each trip ticket will show the date and time of delivery, truck number or driver's name, net weight of the material, and shall be considered as valid delivery receipts only when signed by the Engineer. Payment will be made only for the items of work shown in the Schedule of Unit Prices and Work Scope. All other labor, materials, equipment and incidentals necessary to complete the work shall be considered incidental to the unit prices shown in the Schedule of Unit Prices.
- B. The quantity to be paid for shall be the number of tons actually furnished and incorporated in the work, in accordance with the Specifications and as directed by the Engineer. This payment shall constitute full compensation for all materials and work as specified herein.

4.3 UTILITY APPURTENANCES EXTENSIONS

Payment for extensions of valve boxes, manholes, catch basins, inlets or other appurtenances will include full compensation for all work and materials required to raise or extend each appurtenance. Payment for utility appurtenance extensions will be based on the unit price for each extension stated in the CONTRACTOR's Bid.

4.4 REMOVE EXISTING BITUMINOUS SURFACE

Payment for removing the existing bituminous surface will be made at the unit price per square foot of bituminous surface removed as stated in the CONTRACTOR's Bid, and shall constitute full compensation for the work of removal and disposal of existing bituminous surfaces that is not paid for under trench excavation and backfill.

4.5 REWORKING LIME ROCK BASE

Payment for reworking limerock base will be incidental to Sidewalk, Asphalt and Curbs, and shall constitute full compensation for all earthwork required for this work.

4.6 LIME ROCK NEW MATERIAL

Payment for new limerock material will be made at the unit price per ton of limerock as stated in the CONTRACTOR's Bid, and shall constitute full compensation for furnishing and delivering limerock. Measurement for payment will be based on the number of tons (2000 pounds) of limerock used, as weighed on tested scales. Present trip tickets to the Engineer for his signature as the material is delivered. Each trip ticket shall show the date and time of delivery, truck number or driver's name, net weight of the material and shall be considered as valid delivery receipts only when signed by the Engineer. Payment will be made only for the items of work shown in the schedule of Unit Prices and Work Scope. All other labor, materials, equipment and incidentals necessary to complete the work shall be considered incidental to lump sum and unit prices shown in the Schedule of Unit Prices.

4.7 MILLING

Payment for milling ordered by the Engineer will be made at the unit price per square yard of asphalt concrete pavement milled as stated in the CONTRACTOR's Bid, and shall constitute full compensation for all asphalt concrete pavement milled beyond that considered to be incidental and required for connections to existing pavement. Milling in areas damaged due to the CONTRACTOR's failure to protect surface will not be paid for.

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SECTION 02575
SURFACE RESTORATION / INSTALLATION

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section covers the work necessary to install or replace all pavements, pavers, curbs, sidewalks, rock surfacing, walls and other street features damaged either directly or indirectly by the operations incidental to the construction described in other Sections of these Specifications, or required for new installations.
- B. See CONDITIONS OF THE CONTRACT and Division 1, GENERAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein.
- C. Where the materials, construction procedures, degree of compaction of materials, and the method of control and testing, as required in these Specifications differ from the FDOT requirements, the more stringent requirements shall apply.
- D. Two inches of asphalt paving over the trenches shall be placed as soon after the trench is backfilled and it can be determined that required compactions have been achieved. Payment for temporary restoration or "make safe" measures shall be incidental to Curb Installation, and shall constitute full compensation for all surface restoration/installation required for this work.
- E. Where directed by the ENGINEER, final overlay paving shall be provided and shall be full width of street and placed at end of construction as directed by the ENGINEER.
- F. Cold patch asphalt required for temporary restoration or "make safe" measures is included in TRENCH EXCAVATION AND BACKFILL.
- G. Submittals are required for all products identified in this section.
- H. The term "Standard Specifications" is used. Such reference shall mean the most current edition of the Florida Department of Transportation Standard Specification for Road and Bridge Construction. Standard Specifications shall be considered as part of this section of the Specifications. CONTRACTOR shall be responsible for obtaining and incorporation in the contract all of the Standard Specifications and the most current revisions that apply to this contract scope of work. CONTRACTOR shall document in his daily reports the required Standard Specifications that are used.
- I. Any reference of the following "FDOT" "Agency" "Engineer" shall be considered to be the Owner (City of Key West) for this contract. Disregard all Basis of Payments in the FDOT specifications. Payment shall be as per the Contract Bid prices.

PART 2 PRODUCTS

2.1 GENERAL

- A. All materials for replacement of existing base course and asphalt surfacing shall conform to the DOT Specifications except as modified herein.
- B. CONTRACTOR will be responsible for furnishing satisfactory materials that meet the Specifications and shall make such tests during the course of the work as are necessary to assure that the quality of the material used meets the Specifications.

2.2 RELATIVE COMPACTION

"Relative compaction" is defined as the ratio, in percent, of the as-compacted field dry density to the laboratory maximum dry density as determined by ASTM D1557. Corrections for oversize material may be applied to either the as-compacted field dry density or the maximum dry density, as determined by the ENGINEER.

2.3 OPTIMUM MOISTURE CONTENT

"Optimum moisture content" shall be determined by the ASTM standard specified to determine the maximum dry density for relative compaction. Field moisture content shall be determined on the basis of the fraction passing the 3/4-inch sieve.

2.4 LIME ROCK BASE COURSE

Aggregate quality and gradation shall conform to Section 911 of the FDOT Standard Specifications for Road and Bridge Construction.

2.5 IMPORTED BASE COURSE ACCEPTANCE

Imported base course materials specified in this section are subject to the following requirement:

1. All tests necessary for the CONTRACTOR to locate an acceptable source of imported material shall be made by the CONTRACTOR. Certification that the material conforms to the Specification requirements along with copies of the test results from a qualified commercial testing laboratory shall be submitted to the ENGINEER for acceptance at least 10 days before the material is required for use. All material samples shall be furnished by the CONTRACTOR at the CONTRACTOR's sole expense. Samples shall be representative and be clearly marked to show the source of the material is required for use and the intended use on the project. Sampling of the material source shall be done by the CONTRACTOR, in accordance with ASTM D75. Notify the ENGINEER at least 24 hours prior to sampling. ENGINEER may, at the ENGINEER's option, observe the sampling procedures. Tentative acceptance of the material source shall be based on an inspection of the source by the ENGINEER and/or the certified test results submitted by the CONTRACTOR to the ENGINEER, at the ENGINEER's discretion. No imported materials shall be delivered to the site until the proposed source and materials tests have been tentatively accepted in writing by the ENGINEER. Final acceptance will be based on tests made on samples of material taken from the completed and compacted course. The completed course is defined as a course or layer that is ready for the next layer or the next phase of construction.
2. Gradation tests by the CONTRACTOR shall be made on samples taken at the place of production prior to shipment. Samples of the finished project for gradation testing shall be taken from each 1,500 tons of prepared materials or more often as determined by the

ENGINEER, if variation in gradation is occurring, or if the material appears to depart from the Specifications. Test results shall be forwarded to the ENGINEER within 48 hours after sampling.

3. If tests conducted by the CONTRACTOR or the ENGINEER indicate that the material does not meet Specification requirements or material placement that does not meet Specification requirements, material placement will be terminated until corrective measures are taken. Material which does not conform to the Specification requirements and is placed in the work shall be removed and replaced at the CONTRACTOR's sole expense. Sampling and testing performed by the CONTRACTOR shall be done at the CONTRACTOR's sole expense.

2.6 BITUMINOUS PRIME AND TACK COAT

- A. Prime Coat: Material shall be cutback asphalt, Grade RC-70 or RC-250 meeting DOT Specification 916-2, or other material acceptable to the ENGINEER and meeting DOT Specifications.
- B. Tack Coat: Material shall be emulsified asphalt, Grade RS-2, SS-1, or SS-1H meeting requirements of DOT Specification 916-4.

2.7 CUTTING EXISTING PAVEMENT

Where new pavement abuts existing pavement, pavement shall be trimmed by saw cutting to a straight line. Any pavement which has been damaged or broken and unsound or undermined shall be removed to provide a smooth, sound edge for joining new pavement.

2.8 ASPHALT CONCRETE

Asphalt concrete shall be Type SP-9.5 or SP-12.5, in conformance with the most current FDOT Specifications Section 334. Modification for Key West application may be used upon acceptance by the ENGINEER.

Asphalt concrete for leveling shall be Type SP-9.5 or SP-12.5, in conformance with FDOT Specifications Section 334.

Aggregate: Asphalt concrete shall meet the requirements of FDOT Specifications.

Submit test results from a commercial testing laboratory to the ENGINEER to show that the materials meet the quality and gradation requirements.

Submit to ENGINEER mix designs for each type of asphalt from each plant.

2.9 CONCRETE

- A. Concrete mix shall be, in conformance with FDOT Specification Sections 347 and 350, with minimum strength 3,500 psi at 28 days.
- B. Concrete Forms: All forms for curbs and sidewalks shall be two-inch dimensioned lumber, plywood, or metal forms. Forms on the face of the curb shall have no horizontal form joints within seven inches of the top of the curb.
- C. Curing materials for concrete shall conform to FDOT Specification Section 925.

D. Reinforcing steel shall conform to ASTM A615, Grade 60.

2.10 FLOWABLE FILL

Provide flowable fill concrete, when approved by ENGINEER, with a minimum bearing strength of 500 psi, mix as specified in Section 02726 MANHOLE AND MISCELLANEOUS CONCRETE CONSTRUCTION.

2.11 FLOWABLE FILL

CONTRACTOR shall place and maintain temporary striping markings throughout the course of the work, until permanent striping markings are placed on the final roadway surface. Temporary and permanent striping shall in accordance with FDOT Specification Sections 711 and 971.

PART 3 EXECUTION

3.1 CONSTRUCTION PROCEDURE

A. ENGINEER reserves the right to vary the type of resurfacing, as best serves the interest of the OWNER. Trench backfill shall be as specified in Section 02221 TRENCH EXCAVATION AND BACKFILL.

B. Replace all bituminous and concrete pavement damaged or removed under this Contract with asphalt concrete, regardless of original type.

C. In addition to the requirements set forth herein, the work shall conform to the applicable workmanship requirements of the state highway or municipal specifications.

3.2 REMOVAL OF PAVEMENT, SIDEWALK, CURBS, AND GUTTERS

Removal of all pavement, sidewalks, curbs, gutters shall conform to Section 02221 TRENCH EXCAVATION AND BACKFILL and payment for removal shall be included in that section.

3.3 STREET MAINTENANCE

Maintain all trenches as specified under Section 02221 TRENCH EXCAVATION AND BACKFILL.

3.4 SUBGRADE

Backfill and compaction of trenches shall be as specified in Section 02221 TRENCH EXCAVATION AND BACKFILL. Shape subgrade to required line, grade, and cross section. Remove all soft or otherwise unsuitable material disclosed by rolling the subgrade and replace with suitable material from the excavation. Fill holes and depressions, which develop under the roller, to the required grade and cross sections with material from the excavation. Finished subgrade shall be within a tolerance of plus or minus 0.08 of a foot of the grade and cross section, smooth and free from irregularities, with a compacted soil density of 98 percent, in accordance with ASTM D1557.

3.5 CONSTRUCTION OF BASE COURSE

Obtain ENGINEER's acceptance of the subgrade prior to placing any base course material on the subgrade. Place BASE COURSE in maximum 6-inch loose lifts and compact to not less than 98 percent relative compaction.

3.6 BASE COURSE REPAIR

General:

1. Base course repair work shall consist of constructing a compacted limerock base course, of the thickness and width in accordance with the details for the respective application, as shown on the Drawings.
2. All base course repair work shall conform to the grades and cross sections of the existing pavement. The finished grade of the limerock base shall be level with the existing base course. Limerock for base construction shall be Miami Limerock, in accordance with Section 911 FDOT Specifications. The base course shall be constructed in accordance with applicable provisions of Section 200 FDOT Specifications.
3. If the subgrade material becomes mixed with base course materials, CONTRACTOR shall, without additional compensation, dig out and remove the mixture, reshape, and recompact the subgrade and replace the materials removed with clean rock which shall be watered and rolled until satisfactorily compacted.

3.7 DEPTH OF LAYERS

Base course shall be constructed in lifts of not more than 6 inches in thickness prior to compaction.

3.8 SPREADING MATERIALS

- A. Base course material may be spread by any method that will result in an even distribution of the material upon the roadway without perceptible separation in gradation.
- B. Should separation of the coarser from the finer materials occur during any stage of the surfacing or stockpiling, causing serious lack of uniformity in the grading, CONTRACTOR shall immediately make changes in the method of handling to prevent separation and meet acceptance of the ENGINEER.
- C. Equipment such as scrapers and other equipment essentially used for earth excavation will not be permitted.

3.9 ROLLING

- A. Compaction of each layer of base shall be performed in accordance with Section 200 of the FDOT Standard Specifications for Roadway and Bridge Construction.
- B. Compaction equipment shall be adequate in design to provide compaction and obtain the specified density for each layer. Water shall be applied as needed to obtain the specified densities at the CONTRACTOR's sole expense.
- C. In-place density and moisture content will be determined by any one or combination of the following methods: ASTM D2922, 1556, D2216, or other methods selected by the ENGINEER. Cooperate with this testing work by leveling small test areas designated. Backfill test areas at CONTRACTOR's sole expense. The frequency and location of testing shall be a minimum of one test per lift between structures. However, any lift or fill may be tested at any time, location, or elevation.

- D. Each layer of base course shall be placed and compacted to the specified density before a succeeding layer is placed.
- E. CONTRACTOR shall construct the base course in an orderly manner, so that a reasonable length of trench will be ready for testing and a reasonable amount of time will be allowed for the ENGINEER to perform tests and obtain the test results, during normal working hours.
- F. Prior to testing any completed base course, CONTRACTOR shall show reasonable proof that the completed section meets the requirements specified.

3.10 CORRECTION OF SURFACE DEFECTS

Should irregularities develop in any surface during or after rolling, they shall be remedied by loosening the surface and correcting the defects, after which the entire areas, including the surrounding surface, shall be rerolled until thoroughly compacted. Finished surface shall be true to the proper grade and crown before proceeding with the surfacing.

3.11 SURFACE TOLERANCES

Finished surface of the base course shall be within plus or minus 0.04 foot of the grade required to provide the specified pavement thickness.

3.12 BITUMINOUS PRIME AND TACK COAT

- A. Provisions of FDOT Specifications shall be in effect for the construction of the prime coat.
- B. Bituminous prime coat shall be applied to the limerock base immediately prior to the placement of asphalt concrete.
- C. Rate of application of the bituminous prime coat shall comply with FDOT Specifications.
- D. Provisions of the FDOT Specifications shall be in effect for the construction of the tack coat.
- E. Bituminous tack coat shall be applied to existing asphalt surfaces prior to the placement of new asphalt, between layers of asphalt concrete surface courses, surfaces of concrete footings that will come in contact with the asphalt concrete pavement, and vertical faces of all longitudinal and transverse joints that have become compacted or cooled.
- F. Rate of application for the bituminous tack coat shall comply with FDOT Specifications.

3.13 ASPHALT CONCRETE PAVEMENT REPLACEMENT

- A. Preparation for Paving:
 - 1. Prime coat shall be applied over the full length of the roadway, and asphalt concrete pavement shall not be placed until the prime coat has cured, as per the manufacturer's recommendations.
 - 2. Should any holes, breaks, or irregularities develop in the roadway surface after the prime coat has been applied, they shall be patched with asphalt concrete immediately in advance of placing the asphalt concrete.

3. After the maintenance, patching, or repair work has been completed and immediately prior to placing the asphalt concrete pavement, the surface of the prime coat shall be swept clean of all dirt, dust, or other foreign matter.
- B. Proposed pavement construction schedule consists of immediately paving over storm drain, sewer line, and sewer service line trenches as soon as possible after it has been determined that subbase and base have achieved required compactions. Base course will be brought up to the elevations indicated on the Drawings and asphalt placed to bring grade up to match existing pavement elevations.
- 3.14 ASPHALT CONCRETE PAVEMENT
- Workmanship in producing, hauling, placing, compacting, and finishing asphalt concrete shall conform to the applicable portions of the FDOT Specifications.
- 3.15 CONNECTIONS WITH EXISTING FACILITIES
- A. Where bituminous pavement is to be connected with an existing roadway surface or other facility, CONTRACTOR shall modify the existing roadway profile in such a manner as to produce a smooth riding connection to the existing facility. CONTRACTOR shall meet existing neat lines where required.
 - B. Where it is necessary to remove existing asphalt surfaces or oil mat surfaces to provide proper meet lines and riding surfaces, CONTRACTOR shall burn or chip existing surface so that there will be sufficient depth to provide a minimum of 2 inch of asphalt concrete. CONTRACTOR shall dispose of the waste material, to the satisfaction of the ENGINEER. Prior to placing the asphalt concrete, these areas shall be tacked. Meet lines shall be straight and the edges vertical. Edges of the meet line cuts shall be painted with liquid asphalt or emulsified asphalt prior to placing asphalt concrete. After placing asphalt concrete, the meet line shall be sealed by painting with a liquid asphalt or emulsified asphalt and immediately covered with clean, dry sand.
- 3.16 CONSTRUCTION OF COURSES
- A. Asphalt concrete pavement shall be constructed in one or more courses, as required in the FDOT Specifications. Asphalt shall be no less than 2" thick.
 - B. Rolling shall continue until all roller marks are eliminated and the minimum percent compaction stated in the FDOT Specification has been obtained.
- 3.17 SURFACE TOLERANCE
- A. Tests for conformity with the specified grade shall be made by the CONTRACTOR, immediately after initial compression. Any variation shall be immediately corrected by the removal or addition of materials and by continuous rolling.
 - B. Completed surface of the pavement shall be of uniform texture, smooth, uniform as to grade, and free from defects of all kinds. The completed surface shall not vary more than 1/8 inch from the lower edge of a 10-foot straightedge placed on the surface along the centerline or across the trench.

- C. After completion of the final rolling, the smoothness and grade of the surface shall again be tested by the CONTRACTOR.
- D. When deviations in excess of the above tolerances are found, the pavement surface shall be corrected as stated in Section 330-12.4 of the FDOT Standard Specifications for Road and Bridge Construction.
- E. All areas in which the surface of the completed pavement deviates more than twice the allowable tolerances described above, pavement shall be removed and replaced to the satisfaction of the ENGINEER.
- F. All costs involved in making the corrections of defects described above shall be borne by the CONTRACTOR and no compensation will be made for this work.

3.18 SAMPLES

If directed by the ENGINEER, the CONTRACTOR shall without additional charge, provide the ENGINEER with test results of samples of asphalt concrete cut from the completed pavement or the individual courses thereof. Provide a minimum of three test cores located as directed by the ENGINEER. He shall also provide the ENGINEER with test results of samples of the uncompressed asphalt concrete mixtures, and all materials incorporated in the work.

3.19 WEATHER CONDITIONS

Asphalt mixtures shall not be applied to wet surfaces. Asphalt shall not be applied while rain is falling or when storms that might adversely affect the application are imminent. After the rain has stopped and water has been removed from the tacked surface to the satisfaction of the ENGINEER, and the temperature of the mixture caught in transit still meets the requirements as specified in FDOT Specification Section 330-9.1.2 , CONTRACTOR may then begin/resume asphalt placement.

3.20 PROTECTION OF STRUCTURES

- A. Provide whatever protective coverings may be necessary to protect the exposed portions of bridges, culverts, fences, walls, curbs, gutters, posts, guard fences, road signs, and any other structures from splashing concrete, oil and asphalt from the paving operations. Remove any concrete, oil, asphalt, dirt or any other undesirable matter that may come upon these structures by reason of the paving operations.
- B. Where water valve boxes, manholes, catch basins, or other utility appurtenances are within the area to be surfaced, resurfacing shall be level with the finished elevation of the structure ring and cover. If the rings and covers are not in accordance with the proposed finished surface elevations, CONTRACTOR shall notify the utility authority, four (4) weeks prior to resurfacing operations, to allow the utility authority to make arrangements to raise or lower the appurtenances. CONTRACTOR will be responsible for making certain the appurtenances are brought to proper grade to conform to finished surface elevations. Any delays experienced from such obstructions will be considered as incidental to the paving operation. No additional payment will be made. CONTRACTOR shall protect all rings and covers during asphalt application.

3.21 EXCESS MATERIALS

Dispose of all excess materials in compliance with Federal, State and local statutes. Make arrangements for the disposal and bear all costs or retain any profit incidental to such disposal.

3.22 CONTRACTOR'S RESPONSIBILITY

Settlement of replaced pavement over trenches within the five (5) year warranty period shall be considered the result of improper or inadequate compaction of the sub-base or base materials. The CONTRACTOR shall promptly repair all pavement deficiencies noted during the warranty period, at the CONTRACTOR's sole expense.

3.23 SIDEWALKS AND CURBS

A. Replace concrete sidewalks and curbs to the same section width, depth, line, grade as that removed or damaged, or as directed by the ENGINEER. The minimum thickness of sidewalks shall be four (4) inches. The minimum thickness of driveways shall be six (6) inches. Cut ends of existing curb to a vertical plane. Prior to replacing the sections, properly backfill and compact the trench to prevent subsequent settlement.

B. Replace concrete sidewalks and curbs between scored joints and make replacement in a manner that will avoid a patched appearance. Provide a minimum two (2)-inch thick compacted leveling course of clean, crushed rock or gravel of quality herein before specified. Finish concrete surface similar to the adjacent sidewalks, while meeting all current code regulations. Cut back sidewalk, as required to ensure transition from existing to new sidewalk meets ADA Accessibility Guidelines.

C. Concrete mix shall be, in conformance with FDOT Specification Section 347, and minimum strength 3,500 psi at 28 days.

3.24 ASPHALT DRIVEWAYS AND PAVED SURFACES

Replace asphalt driveways and paved surfaces in accordance with Section 02555 ASPHALT CONCRETE PAVEMENT.

PART 4 PAYMENT

4.1 GENERAL

A. Payment for the work under this section shall be based on the appropriate unit prices stated in the CONTRACTOR's Bid. Payment shall be considered full compensation for furnishing all labor, materials, and equipment to complete the work as specified under this section.

B. Payment for replacing sidewalks and driveways will be made at the unit price per square yard stated in the CONTRACTOR's Bid.

C. Payment for replacing curbs will be made at the unit price per linear foot stated in the CONTRACTOR's Bid.

4.2 LIMEROCK BASE

Sanitary and Storm Sewerlines: Payment for limerock base will be based on the unit prices per linear foot stated in the CONTRACTOR's Bid, measured horizontally along the length of the trench. The number of linear feet will be measured by the ENGINEER.

Sewer Service, Irrigation and Water Service Lines: Payment for limerock base will be based on the unit price per linear foot stated in the CONTRACTOR's Bid, measured horizontally along the length of the trench. The number of linear feet will be measured by the ENGINEER.

The unit prices shall include payment for excavation required to provide space for the surfacing, preparation of the trench, compaction, disposal of all excess excavated materials, testing, and all other work required to complete the installation of the limerock base.

4.3 ASPHALT CONCRETE PAVEMENT REPLACEMENT AND OVERLAY

Payment for asphalt concrete pavement replacement and overlay will be based on the unit price per ton stated in the CONTRACTOR's Bid. Measurement will be based upon individual trip tickets of actual truck measure, furnished the ENGINEER for tons used under these items. Trip tickets shall be presented to the ENGINEER for his signature on the day material is delivered. No payment will be allowed on trip tickets not so validated by the ENGINEER. Payment for this item shall constitute full compensation for all materials, labor, equipment, and incidentals necessary to complete the resurfacing, including prime and tack coats, adjusting elevations of castings, and all preparatory work.

4.4 SIDEWALK RESTORATION

Payment for new or replacement sidewalks will be made at the unit price stated in the Bid, and will include labor, equipment and materials.

4.5 CURB RESTORATION

Payment for new or replacement curbs will be made at the unit price stated in the Bid, and will include labor, equipment and materials.

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SECTION 02630
CONCRETE SIDEWALKS

PART 1 GENERAL

1.01 SCOPE OF WORK

This section covers the work necessary to construct the concrete sidewalks.

1.02 GENERAL

See CONDITIONS OF THE CONTRACT and Division 1, GENERAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein and are mandatory for this project.

1.03 SUBMITTALS DURING CONSTRUCTION

Submittals during construction shall be made in accordance with Contract Specifications.

PART 2 MATERIALS

2.01 FORMS

Materials for sidewalk forms shall be two-inch dressed lumber straight and free from defects or standard metal forms may be used. Where short-radius forms are required, one-inch dressed lumber or plywood may be used. Provide stakes and bracing materials as required to hold forms securely in place.

2.02 EXPANSION JOINT FILLER

Expansion joint filler shall be two-inch thick, preformed asphalt-impregnated, expansion joint material conforming to ASTM D 994.

2.03 CONCRETE

Concrete shall be ready-mixed conforming to Division 3 CONCRETE, having a minimum compressive strength of 3,500 psi at 28 days. Maximum size of aggregate shall be one-inch. Slump shall be between two and four inches. Submit complete information regarding mix to Engineer for review, in conformance with ASTM Specification C 94/C 94M.

2.04 REINFORCING STEEL

Reinforcing mesh shall be 6 x 6, #6/6 woven wire mesh placed equal distance between the bottom and top of the concrete slab. Precautions will be taken to insure the mesh remains in this position during the placement and finishing of the concrete slab.

2.05 CURING COMPOUND

Liquid membrane-forming curing compound shall be clear or translucent, suitable for spray application and shall conform to ASTM C 309, Type 1.

2.06 ACCEPTANCE OF MATERIALS

All materials shall be subject to inspection for suitability as the Engineer may elect, prior to or during incorporation into the work.

PART 3 WORKMANSHIP

3.01 EXCAVATION, BACKFILL, AND FOUNDATION PREPARATION

Excavation, backfill, and foundation preparation are included in FDOT Specification Section 125.

3.02 SETTING FORMS

- A. Construct forms to the shape, lines, grades, and dimensions called for on the Drawings. Stake wood or steel forms securely in place, true to line and grade.
- B. Brace forms to prevent change of shape of movement in any direction resulting from the weight of the concrete during placement. Construct short-radius curved forms to exact radius. Tops of forms shall not depart from gradeline more than 1/8-inch when checked with a ten-foot straightedge. Alignment of straight sections shall not vary more than 1/8-inch in ten feet.

3.03 SIDEWALK CONSTRUCTION

- A. Sidewalks shall be four inches thick. Reinforcing mesh shall be as indicated in Paragraph 2.04.
- B. At locations where the new sidewalk is to abut existing concrete, saw-cut concrete for a depth of two inches and chip the old concrete back to sound material on a straight line, clean the surface, and apply a neat cement paste just prior to pouring the new sidewalk.
- C. Place preformed asphalt expansion joints at intervals not exceeding 45 feet and at the beginning and end of curved portions of the sidewalks, and around posts, poles, or other objects protruding through the sidewalk.
- D. Provide contraction joints transversely to the walks at five-foot intervals, or as shown on the Drawings. Joints shall be 3/16-inch wide by one-inch deep weakened plane joints. Joints shall be straight and at right angles to the surface of the walk.
- E. Place, process, finish, and cure concrete in conformance with the applicable requirements of ACI 614 and this Specification. Where the requirements differ, the more stringent requirement shall govern.
- F. Broom the surface with a fine-hair broom at right angles to the length of the walk and tool at all edges, joints, and markings. Upon completion of the finishing, apply an approved curing compound to exposed surfaces. Protect the sidewalk from damage for a period of seven days.

PART 4 PAYMENT

4.01 GENERAL

Payment for the work in this section shall be included as part of the lump sum base bid amount stated in the CONTRACTOR's Bid.

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SECTION 02721
CATCH BASINS AND INLETS

PART 1 GENERAL

1.1 WORK INCLUDED

This section covers the work necessary to furnish, install, certify and test the catch basins and inlets complete.

PART 2 PRODUCTS

2.1 CONCRETE

Concrete shall be ready-mix, in conformance with FDOT Specification Section 347, and minimum strength 3,500 psi at 28 days.

2.2 FORMS

Design and construct wood or metal forms in conformance with FDOT Specification Section 425.

2.3 EPOXY-COATED REINFORCING BARS

Deformed bars as specified herein before and in addition, conforming to ASTM A615 and ASTM A775, except as otherwise specified herein, for all reinforcing steel regardless of whether the steel is used in precast units or cast in place units. Provide a written certification to the Engineer, in accordance with Section 4.12 and 4.2.1 of ASTM A775, and a statement that the coating and coated bars have been tested as outlined in Annex A1 and meets the requirements of Annex A1 of ASTM A775. The bond strength of the coated bars shall not be less than 80 percent of the uncoated bars. Repair damaged epoxy coating per Paragraph 3.5 of this Section.

2.4 INLETS

Inlet dimensions and details of construction shall conform to FDOT Design Standards.

2.5 PRECAST INLETS, MANHOLES, AND JUNCTION BOXES

At the opinion of the CONTRACTOR, approved precast units may be substituted for cast-in-place units. Precast units shall conform to ASTM C478, FDOT Design Standards and Specification Section 449. All precast units shall have epoxy-coated reinforcing bars. Submit details of proposed units to the Engineer for review. Concrete risers for extensions shall be a maximum of 6 inches high and of the same quality as the sections. Risers shall be reviewed by Engineer before installation.

2.6 MORTAR

- A. Type S masonry mortar mix shall conform to ASTM C387. Admixtures may be used not exceeding the following percentages of weight of cement: Hydrated lime, 10 percent; diatomaceous earth or other inert materials, 5 percent. Consistency of mortar shall be such that it will readily adhere to the concrete. Rapid set mortar shall be mixed with potable water. Ground water shall not be used for mixing mortar. Mortar mixed for longer than 30 minutes shall not be used.

- B. For inlet castings and manhole rings, set casting in a full mortar bed composed of one part Portland cement to two parts of fine aggregate, as specified in FDOT Specification 425.

- C. For brick masonry, mortar mix shall be proportioned as one part portland cement to three parts clean, well-graded sand that passes a 1/8-inch screen, as specified in FDOT Specification 425.

2.7 FRAMES AND GRATINGS

Cast iron frames and gratings for catch basins and storm drain inlets shall be as indicated. Bearing surfaces shall be clean, free from protrusions, and provide smooth surface for the grate to bear upon. Castings shall be tough, close-grained gray iron, sound, smooth, clean, free from blisters, blowholes, shrinkage, cold shuts, and all defects, conforming to ASTM A48, Class 30.

2.8 BASE ROCK

Base rock shall be crushed gravel or crushed rock, free from dirt, clay balls, and organic material, and conforming to size No. 57 graduation, as specified in the FDOT Standard Specifications, Division III – Materials, or similar accepted material. Base rock may be imported, if necessary, at CONTRACTOR's own expense. Limerock screenings or material resulting from trench excavation, except for limerock which has been crushed and graded to size as specified, will not be accepted for base rock.

PART 3 EXECUTION

3.1 EXCAVATION AND BACKFILL

Excavation as required to accomplish construction. Backfill shall be as specified for the adjoining pipe trench.

3.2 CONSTRUCTION OF CATCH BASINS AND INLETS

- A. Construct inlets and catch basins at locations shown, and in accordance with the Drawings and Specifications. Construct forms to the dimensions and elevations specified. Forms shall be tight and well braced. Chamfer corners of forms.
- B. Prior to placing concrete, remove all water and debris from the forms. Moisten forms just prior to placing the concrete. Handle concrete from the transporting vehicle to the forms in a continuous manner, as rapidly as practical without segregation or loss of ingredients. Immediately after placing concrete, consolidate concrete with a mechanical vibrator. Limit the duration of vibration to the time necessary to produce satisfactory consolidation without causing segregation.
- C. Screed the top surface of exposed slabs and walls. When initial water has been absorbed, float the surfaces with a wood float and lightly trowel with a steel trowel to a smooth finish, free from marks or irregularities. Finish exposed edges with a steel edging tool. Remove forms and patch any defects in the concrete with mortar mixed in the same proportions as the original concrete mix.
- D. Cure concrete by preventing the loss of moisture for a period of 7 days. Accomplish with a membrane-forming curing compound. Apply the curing compound immediately after removal of forms or finishing of the slabs. Protect concrete from damage during the 7-day curing period.

3.3 PLACING PRECAST UNITS

Remove water from the excavation. Place minimum six (6) inches of rock base and thoroughly compact with a mechanical vibrating roller, tamper rammer or plate compactor.

3.4 EXTENSIONS

Install extensions to height determined by Engineer. Lay risers in mortar with sides plumb and tops to grade. Joints shall be sealed with mortar, with interior and exterior troweled smooth. Prevent mortar from drying out and cure by applying a curing compound. Extensions shall be watertight.

3.5 REPAIR OF DAMAGED EPOXY COATING ON REINFORCING BARS

Damaged epoxy coating shall be repaired with patching material conforming to ASTM A775, meeting the requirements for patching material contained in Annex A2. Repair shall be done in accordance with patching material manufacturer's recommendations.

3.6 INSTALLATION OF FRAMES AND GRATES

A. Set frames and grates at elevations indicated or as determined in the field, in conformance with the Drawings and FDOT Specification Section 425.

B. Frames may be cast in place or mortar, in conformance with FDOT Specification Section 425.

3.7 CLEANING

Upon completion, clean each structure of all silt, debris, and foreign matter.

PART 4 PAYMENT

4.1 INLETS

Payment for inlets will be made at the unit price per inlet stated in the CONTRACTOR's Bid for inlets regardless of depth, including extensions if required. No deduction will be made from the inlet price for depths less than 6 feet. Inlet depths will be measured from the top of the inlet grate at the curb to the inlet invert at the center of the inlet. Depth will be to the nearest foot as measured by the Engineer. This price shall constitute full compensation for all work required for the construction of the inlets, complete, including the bottom, top, frame and grate, and for over excavating and placing compacted six-inch layer of base rock under the inlet bottom and removal of existing inlets and assorted piping

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SECTION 02724
STORM DRAIN

PART 1 GENERAL

1.1 WORK INCLUDED

This section covers the work necessary for the storm drain and appurtenances complete.

PART 2 PRODUCTS

2.1 GENERAL

- A. All storm drain pipe and perforated pipe for exfiltration trenches in the project shall be corrugated high-density polyethylene pipe or PVC drainage pipe.
- B. Flexible watertight pipe adaptor for connections of pipe to storm structures, meeting the requirements of ASTM F2510 and ASTM C1478 for watertight flexible connections shall be provided.
- C. Submittals are required for all products identified in this section.

2.2 CORRUGATED HIGH-DENSITY POLYETHYLENE PIPE

- A. This Specification covers the specifications for corrugated high-density polyethylene pipe with smooth interior. Nominal sizes 12, 15, 18, and 24-inch are included.
- B. Material: PE pipe and fittings shall meet the requirements of ASTM F2306 and FDOT Specification Section 948.
- C. Pipe Dimensions: Type S pipe shall have a full circular cross section, with an outer corrugated pipe wall and a smooth inner wall.
- D. Pipe Stiffness: Minimum pipe stiffness shall be five percent deflection.

Pipe Diameter (in.)	HDPE Minimum Pipe Stiffness (psi)	PVC Minimum Pipe Stiffness (psi)
12	50	46
15	42	46
18	40	46
24	34	46
30	28	46
36	22	46

- E. Tests shall be in accordance with ASTM D2412 with a minimum one diameter sample length, a loading rate of 0.5 inch/min., and readings at 5 percent deflection.
- F. Hydraulics: Pipe inner wall friction factor shall not be greater than Mannings "n" value 0.012.

2.3 POLYVINYL CHLORIDE (PVC) GRAVITY PIPE

- A. This Specification covers the specifications for corrugated polyvinyl chloride (PVC) pipe with smooth interior. Nominal sizes 4-inch through 36-inch are included.
- B. Material: PVC pipe shall meet the requirements of ASTM F949 and FDOT Specification Section 948.
- C. PVC additives and fillers, including, but not limited to, stabilizers, antioxidants, lubricants, colorants, etc., shall not exceed ten parts by weight per 100 of PVC resin in the compound.
- D. Plastic pipe and fittings shall meet all the requirements of AWWAC900 and shall be PVC-1120 pipe, having a cell classification 12454 in accordance with ASTM D1784.
- E. Pipe four inches in diameter and larger shall be pressure rated Class 150 (DR 18) with cast iron pipe equivalent OD, in accordance with AWWA C900. Pipe shall be equipped with a push-on type joint with elastomeric gasket that meets the requirements of ASTM D3139.
- F. Pipe smaller than four-inch diameter shall be PVC Schedule 80, in accordance with ASTM D1785. Schedule 80 pipe and fittings shall be threaded joint.

2.4 CONCRETE PIPE

- A. Precast round or elliptical concrete drainage pipe shall meet the requirements of FDOT Specification Section 449.
- B. Concrete drainage pipe shall be furnished and installed in accordance with FDOT Specification Section 430.

2.5 PIPE JOINTS

- A. Polyethylene pipe joints: The pipe shall be joined by split corrugated couplings, at least seven corrugations wide and exceeding the soil tightness requirements of AASHTO Standard Specifications for Highway Bridges, Section 23 (2.23.3).
- B. Polyvinyl Chloride (PVC) gravity pipe joints: Joints shall be rubber gasketed type, complying in all respects to the physical requirements of ASTM D3212 for gravity pipes. Gaskets shall conform to ASTM F477. Furnish complete information on basic gasket polymer and results of physical property tests. Lubricant for jointing shall be as approved by the pipe manufacturer.
- C. Concrete pipe joints shall be made with round rubber gasket type, furnished by the pipe manufacturer, unless otherwise specified. Pipe gaskets shall conform to the requirements of FDOT Specification Section 942. Pipe manufacturer shall furnish lubricants for joints. Resilient connectors for sealing pipe joints to precast structures shall meet the requirements of ASTM C1478.

2.6 MORTAR

- A. Mortar shall be standard premix mortar conforming to ASTM C387, Type S.
- B. Mortar mix shall be proportioned as one part portland cement to two parts clean, well-graded sand that passes a 1/8-inch screen, as specified in FDOT Specification 425.

- C. Water shall be added as directed on the bag instructions and only as necessary to produce a stiff workable mortar. Admixtures may be used, not exceeding the following percentages by weight of cement: Hydrated lime, 10 percent; diatomaceous earth or other inert materials, 5 percent. Consistency of mortar shall be such that it will adhere readily to the pipe. Rapid set mortar shall be mixed with potable water. Ground water shall not be used for mixing mortar. Mortar mixed for longer than 30 minutes shall not be used.

2.7 PIPE BEDDING AND PIPE ZONE MATERIAL

- A. Pipe bedding and pipe zone material are identical and shall be crushed gravel, crushed rock, or pea rock, free from dirt, clay balls, and organic material. Crushed rock shall be size No. 57 gradation, as specified in the FDOT Specification 901. Material shall be imported at the CONTRACTOR's own expense. Limerock screenings or material resulting from trench excavation, except for limerock which has been crushed and graded to size as specified, will not be accepted for pipe bedding materials.
- B. Imported pipe bedding and pipe zone materials specified in this Section are subject to the following requirements:
 - 1. All tests necessary for CONTRACTOR to locate an acceptable source of imported material shall be made by the CONTRACTOR. Certification that the material conforms to the Specification requirements, along with copies of the test results from a qualified commercial testing laboratory, shall be submitted to the Engineer for acceptance at least 10 days before the material is required for use. All material samples shall be furnished by the CONTRACTOR, at the CONTRACTOR's sole expense. Samples shall be representative and be clearly marked to show the source of the material and the intended use on the project. Sampling of the material source shall be done by CONTRACTOR, in accordance with ASTM D75. Notify the Engineer at least 24 hours prior to sampling. Engineer may, at the Engineer's option, observe the sampling procedures. Tentative acceptance of the material source shall be based on an inspection of the source by the Engineer and/or the certified test results submitted by CONTRACTOR to Engineer, at the Engineer's discretion. No imported materials shall be delivered to the site until the proposed source and materials tests have been tentatively accepted, in writing, by Engineer. Final acceptance will be based on tests made on samples of material taken from the completed and compacted course. Completed course is defined as a course or layer that is ready for the next layer or the next phase of construction.
 - 2. Gradation tests by CONTRACTOR shall be made on samples taken at the place of production, prior to shipment. Samples of the finished project for gradation testing shall be taken from each 1,500 tons of prepared materials or more often, as determined by Engineer, if variation in gradation is occurring, or if the material appears to depart from the Specifications. Test results shall be forwarded to Engineer, within 48 hours after sampling.
 - 3. If tests conducted by CONTRACTOR or Engineer indicate the material does not meet Specification requirements, material placement will be terminated until corrective measures are taken. Material that does not conform to the Specification requirements and is placed in the work shall be removed and replaced at CONTRACTOR's sole expense. Sampling and testing performed by CONTRACTOR shall be done at the CONTRACTOR's sole expense.

2.8 COARSE ROCK

Perforated pipe bed shall be 12 inches, minimum, and cover shall be six inches, minimum. Coarse rock shall be as defined in Paragraph 2.7 PIPE BEDDING AND PIPE ZONE MATERIAL.

PART 3 EXECUTION

3.1 TRENCH EXCAVATION AND BACKFILL

Conform to the requirements of Section TRENCH EXCAVATION AND BACKFILL. Excess excavated material shall be removed and disposed of off the site, at CONTRACTOR's sole expense.

3.2 PREPARATION OF TRENCH

Pipe Bedding Material

1. Grade: Grade the bottom of the trench by hand to the line and grade to which the pipe is to be laid, with proper allowance for pipe thickness and for pipe bedding. Before laying each section of pipe, check the grade and correct irregularities. Trench bottom shall form a continuous and uniform bearing and support for the pipe between bell holes.
2. Granular Material for Pipe Bedding: Provide granular material for pipe bedding under all pipe. Place material in the trench to a minimum depth of six inches, to a level one-half the diameter above the bottom of the pipe barrel. Particular attention must be given to the area from the flow line to the centerline of the pipe, to ensure firm support is obtained, to prevent lateral movement of the pipe during final backfill of the pipe zone. Ahead of pipe laying, grade top of pipe bedding the full width of the trench. Bedding shall provide firm support along entire pipe length.
3. Bell (Joint) Holes: At the location of each joint, excavate bedding, where necessary to permit the bell joint to be made properly and facilitate visual inspection of the bell joint.
4. Dewatering: Conform to Section TRENCH EXCAVATION AND BACKFILL, Paragraph 3.10 REMOVAL OF WATER.

3.3 PIPE DISTRIBUTION

Distribute material on the job no faster than it can be used to good advantage. In general, distribute no more than one-day supply of material in advance of the laying, unless otherwise accepted by the Engineer. Unload pipe that cannot be physically lifted by workers from the trucks, by a forklift, or other accepted means. Do not drop pipe of any size from the bed of the truck to the ground.

3.4 PIPE PREPARATION AND HANDLING

- A. Inspect all pipe and fittings prior to lowering into trench to ensure no cracked, broken, or otherwise defective materials are being used. Clean ends of pipe thoroughly. Remove foreign matter and dirt from inside of pipe, and keep clean during and after laying.
- B. Use proper implements, tools, and facilities for the safe and proper protection of the work. Lower pipe into the trench, in such a manner as to avoid any physical damage to the pipe. Remove all damaged pipe from the jobsite. Do not drop or dump pipe into trenches under any circumstances.

C. Stored pipe shall be covered to protect pipe from the sun and ultraviolet radiation.

3.6 LINE AND GRADE

- A. Installation of pipe shall be in accordance with manufacturer and either AASHTO Section 30 or ASTM D2321 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewer and Other Gravity-Flow Applications.
- B. Do not deviate from line or grade, as established by Engineer, more than 1/2 inch for line and 1/4 inch for grade, provided that such variation does not result in a level or reverse sloping invert. Measure for grade at the pipe invert -- not at the top of the pipe -- because of permissible variation in pipe wall thickness.
- C. All storm drains shall be laid using a laser accepted by Engineer. The beam shall be directed through the pipe. Batter boards or instrument laying will not be permitted. The laser shall be constantly shielded from the direct sun.
- D. CONTRACTOR shall set offset stakes or other accepted method of controlling alignment and grade for excavation of trenches and for pipe laying. CONTRACTOR shall submit to Engineer for acceptance, in writing, his proposed method of establishing line and grade.

3.7 LAYING AND JOINTING PIPE AND FITTINGS

- A. Do not permit mud and foreign material to get into the pipe. During laying operations, do not permit debris, tools, clothing, or similar items to be placed in pipes.
- B. Pipe laying shall proceed upgrade with spigot ends pointing in the direction of low. After a section of pipe has been lowered into the trench, clean the ends of the pipe. Be careful in handling pipe to prevent breakage. Remove any pipe damaged, and replace at CONTRACTOR's sole expense.
- C. Pipe laying shall proceed upgrade with spigot ends pointing in direction of flow. After a section of pipe has been lowered into the prepared trench, clean and lubricate the end of the pipe to be joined, the inside of the joint, and the rubber ring immediately before joining the pipe. Make assembly of the joint in accordance with the recommendations of the manufacturer of the type of joint used. Provide all special tools and appliances required for the jointing assembly.
- D. After the joint has been made, check pipe for alignment and grade. Trench bottom shall form a continuous and uniform bearing and support for the pipe at every point between joints. Apply sufficient pressure in making joint, to assure that the joint is "home," as defined in the standard installation instructions provided by the pipe manufacturer. To assure proper pipe alignment and joint makeup, place sufficient pipe zone material to secure the pipe from movement before the next joint is installed. 21-inch and smaller pipe shall be laid so the inside joint space does not exceed 3/8 inch in width.
- E. Take necessary precautions required to prevent excavated or other foreign material from entering the pipe, during the laying operation. When pipe laying operations are not in progress, such as, the close of the day's work or whenever the workmen are absent from the job, close and block the open end of the last laid section of pipe, to prevent entry of foreign material or creep of the gasketed joints.

- F. Take all precautions necessary to prevent the "uplift" or floating of the line, prior to the completion of the backfilling operation.

3.8 BACKFILL AT THE PIPE ZONE

- A. Pipe zone shall be considered to include the full width of the excavated trench from the bottom of the pipe to a point 12 inches above the outside surface of the barrel of the pipe, or to an elevation plus 2.5 feet NGVD, whichever is higher.
- B. Pipe zone material, as herein before specified, shall be used for the full depth of the pipe zone and for the full width of the excavated trench.
- C. Hand place coarse rock material around the pipe, in horizontal six-inch layers, thoroughly hand tamp with accepted tamping sticks, supplemented by "walking in" and slicing with a shovel. Backfill pipe zone with coarse rock, from horizontal centerline to a point 12 inches above the top outside surface of the pipe. Use particular attention in placing material on the underside of the pipe, to provide a solid backing and prevent lateral movement during the final backfilling procedure. Vibrate and compact trench.
- D. Conform to Section TRENCH EXCAVATION AND BACKFILL, Paragraph 3.13, TRENCH BACKFILL ABOVE THE PIPE ZONE.
- E. Detectable metallic underground tape shall be used above every underground pipe.

3.9 REMOVAL OF EXISTING UTILITY LINES AND STRUCTURES

CONTRACTOR shall furnish all labor, materials, and equipment necessary for the removal and disposal of existing sewer lines, including inlets and manholes, which are to be replaced by new construction utilizing the same trench. Existing lines to be removed are not considered worthy of salvage, and therefore will be broken up and disposed of at the nearest legally operated landfill. No payment will be made for removal of existing lines.

3.10 STORM DRAIN SYSTEM CLEANING

- A. Prior to final structure-to-structure inspection by Engineer and acceptance of the storm drain system, CONTRACTOR shall completely flush or clean all parts of the system, and remove all accumulated construction debris, including rocks, gravel, and other foreign material from the storm drain system. If necessary, use mechanical rodding equipment to remove accumulated mud, silt, and all deposits from the storm sewer system, at no additional cost to the Owner.
- B. Upon Engineer's final structure to structure inspection of the system, if foreign matter and other construction debris are still prevalent in the system, reflush and clean the sections and portions of the lines, as required.

3.11 MATERIAL TESTS AND INSPECTIONS

- A. Deflection Test: All PVC and HDPE thermoplastic pipe shall be tested for deflection after installation and backfill, by pulling a round plug equal to 95 percent of pipe inside diameter, as defined in Appendices of ASTM D3034, through the completed pipeline. Mandrel shall be of a design that provides accurate measure of excess deflection, regardless of orientation. Mandrel testing shall be performed not less than 30 days after complete pipe installation.

- B. Lamping Test: Engineer shall perform lamp test of all installed pipelines, prior to putting system into service, to verify alignment of pipeline. Lamp test shall be performed after CONTRACTOR has thoroughly cleaned the pipeline, to the satisfaction of Engineer. CONTRACTOR shall facilitate lamp testing, including pipeline cleaning, access to inlets, provide ladders, flashlights, mirrors, etc. Should the lamp test indicate an alignment problem, Engineer shall be the sole judge of the need for pipe replacement.
- C. Hydrostatic Testing: Hydrostatic pressure test of all pipelines and inlets shall be performed by CONTRACTOR. All pipelines, inlets and manholes shall be plugged and filled with clean water. Visual reduction of more than two-inches in two hours will indicate repairs are required.

3.12 CONNECTION TO EXISTING PIPING AND EQUIPMENT

- A. CONTRACTOR shall verify exact location, material, alignment, joint, etc. of existing piping, prior to making connections specified on the Drawings. Verifications shall be performed by CONTRACTOR within adequate time to correct any potential alignment or other problems prior to the actual time of connection.
- B. At the time a new connection is made to an existing pipeline, piping extending to, and including a new valve at a convenient location, shall be installed.
- C. Where necessary or required for the purpose of making connections, CONTRACTOR shall cut existing pipelines in a manner to provide an approved joint. Where required, CONTRACTOR shall weld flanges, provide couplings, or fabricate special fittings as required.
- D. Where connections are to be made to existing pipelines and existing equipment is to be reused in the work, pipe and fittings shall be sand-blasted and cleaned, and mating surfaces shall be properly prepared. CONTRACTOR may not reuse bolts, nuts, washers or gaskets, and shall provide new bolts, nuts, washers or gaskets, and appurtenances necessary to make sound connections.

PART 4 PAYMENT

4.1 GENERAL

Payment for the work in this section will be included as part of the unit price bid amount stated in the Bid. Payment for pipe will be based upon the unit price per linear foot stated in CONTRACTOR's Bid for the classes, types, and sizes of pipe required and installed, as shown. Payment for pipe will be on a linear foot basis on the actual number of feet installed, as measured by the Engineer. Pipe lengths through inlets or manholes will be deleted from length for payment. Unit price per linear foot shall constitute full compensation for the pipe, in place, backfill in the pipe zone, and all other work specified.

Engineer will withhold full payment on any section of pipe deemed unsatisfactory due to excessive leakage, unsatisfactory line and grade, or any other cause until such defects have been corrected in accordance with the intent of these Contract Documents. Final payment for the pipe placed will not be made until the pipe has successfully passed all testing.

No final payment will be made until all the correspondent Certificates and test results are submitted for approval.

If flow measurements or visual inspection within two years covered by the Performance Bond indicates that any section of the storm drain system, although originally accepted, is actually not acceptable due to subsequent excessive leakage, then the CONTRACTOR shall repair or replace the affected portion. It is understood that should the CONTRACTOR fails to do such work as required, the Surety shall be liable for said costs of repair or replacement.

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SECTION 02731
ROADWAY SIGNS

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section covers the work necessary for establishing a standard of signs, including furnishing and placing of signs and posts.
- B. See **CONDITIONS OF THE CONTRACT** and Division 1, **GENERAL REQUIREMENTS**, which contain information and requirements that apply to the work specified herein and are mandatory for this project.
- C. Areas disturbed by the **CONTRACTOR** whether inside or outside the limits of the construction area shall be restored in accordance with this section. Areas outside the limits of construction shall be restored at the **CONTRACTOR'S** sole expense.

1.2 SUBMITTALS

Shop Drawings: Product labels/data sheets.

PART 2 PRODUCTS

2.1 SIGNS

- A. Signs shall be 0.080" 5052 H38 aluminum alloy, etched with alodine 1200E process. Finish shall be high intensity.
- B. Color and dimensions shall be standard MUTCD compliant.

2.2 POSTS

- A. Frangible supports: Provide posts for all frangible sign assemblies consisting of aluminum tubes up to 3-1/2 inches outside diameter with 3/16 in. wall thickness, in accordance with FDOT Roadway and Traffic Design standards, Index Nos. 11860 through 11865 for frangible sign supports.
- B. Provide all single column signs mounted on a tubular post, with a foundation, with a standard extruded aluminum sign bracket clamped on the post 12 inches below grade. Match bracket size with the post diameter.

PART 3 MATERIALS

3.1 CONCRETE

Concrete shall meet the requirements specified in FDOT Specification 346. For footings, use Class II concrete, minimum strength 3,400 psi at 28-day.

3.2 ALUMINUM MATERIALS

- A. Aluminum materials shall have surface appearance and protection as specified in FDOT Specification 965.

- B. Channels: For aluminum channels, meet the requirements of ASTM B 308 [ASTM B 308M].
- C. Bolts, Nuts, and Lock Washers: Bolts and nuts shall be aluminum, meeting the requirements of ASTM B211. Aluminum washers shall be Alclad 2024-T4, not anodized, meeting ASTM B209. Lock-nuts shall have anodic coating of at least 0.0002 inch thick, and chromate sealed.

3.3 STEEL

- A. Structural steel, bolts, nuts, and washers shall be hot dip galvanized after fabrication. Perform hot dip galvanizing in accordance with ASTM A123 [ASTM A 123M] or ASTM A153 [ASTM 153M]. Galvanized steel members shall meet the requirements of FDOT Specification.
- B. Specific Uses of Aluminum and Galvanized Steel: Use aluminum bolts nuts, and hardware to connect parts of the cast base. Use galvanized steel anchor bolts, nuts and washers to anchor base plates to concrete bases. As permitted by the Engineer, galvanized steel parts shall be allowed, as an alternate to aluminum.

PART 4 EXECUTION

4.1 ACCEPTANCE OF SIGNS

- A. Manufacturer's Certification and Recommendations: Material Certificates for all signs shall be provided by the manufacturer, to certify the delivered signs conform to this Section and provide recommendations for storage and repair.
- B. Packaging and Shipping: Manufacturer shall package and ship signs in a manner which will minimize damage.
- C. Storage of Signs: Signs shall be stored in accordance with the manufacturer's recommendations.
- D. Sign Inspection: Engineer shall inspect all signs for conformance with this Section, prior to, and following, installation. CONTRACTOR shall repair and/or replace signs deemed unacceptable by the Engineer, at no expense to the City.
- E. Imperfections and Repairs: Repair and replace signs containing imperfections or damage, regardless of the kind, type, or cause of the imperfections or damage. CONTRACTOR shall make repairs according to the manufacturer's recommendations and to the satisfaction of the Engineer. CONTRACTOR shall make completed repairs that provide a level of quality necessary to maintain the service life warranty of the sign and are satisfactory in appearance to the Engineer.

4.2 FOOTINGS FOR SIGNS, POSTS, AND SUPPORTS

- A. Excavation and Backfilling: Perform excavation and backfilling for the footings in accordance with Section 125, with the exceptions that no specific density is required and that the backfill may be tamped in 4 inches maximum layers. Use material that is at near optimum moisture and neither dry or saturated, and tamp to the extent directed by the Engineer. The City may require that the backfilling be done with poured concrete.

- B. Removal of Footings: When existing ground mounted signs are to be modified or removed, CONTRACTOR shall remove supports and footings, following removal of sign panel from the assembly. Footings shall be removed to a minimum depth of 12 inches below the ground surface. CONTRACTOR shall include the cost for sign, post, and footing removal in the Contract unit price of the item to which it is incidental.

PART 5 PAYMENT

- A. Quantities to be paid will be the number of roadside traffic signs of each designated class of assembly, complete.

- B. Price and payment will be full compensation for furnishing and installation of all materials necessary to complete the signs.

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SECTION 02900
GENERAL TREE PLANTING AND MAINTENANCE

PART 1 PLANTING

- A. Site factors which influence long-term survivability should be considered, such as overhead and underground utilities, sidewalks, signage conflicts, traffic visibility, light poles etc.
- B. Synthetic or non-degradable materials, such as nylon rope or treated burlap, should be removed from the root ball prior to planting. Biodegradable material should be removed from the upper 1/3 of the root ball and shall not extend above the soil, where materials will act as a wick and dry the soil. Remove ropes and cut-back the top portion of the wire basket and loops, after the tree is set in the hole.
- C. Excavate a hole for the root ball, at least 3-5 times the diameter of the root ball, and to the same depth as the root ball.
- D. Position landscape materials and tree in the center of the hole, with the top of the soil ball even with the surrounding ground.
- E. Backfill with non-contaminated soil from the planting site. Concrete washout contaminated soil shall not be allowed. Large rocks, greater than two-inch diameter, shall be removed. Saturate the hole with water, during the planting backfill process.
- F. Water planted landscape material thoroughly, to remove air pockets, secure the soil around the roots, and provide root moisture and nourishment.
- G. Rake soil evenly around entire planting area, and restore the planted site to pre-construction conditions, or better, as indicated in the Contract Documents.

PART 2 MULCHING

CONTRACTOR shall mulch to an area at least three times the diameter of the root ball, to a depth of four inches with wood chips, bark mulch, shredded mulch leaves, or pine needles, and replenish mulch as necessary.

PART 3 STAKING

- A. CONTRACTOR shall stake landscape plant material, as necessary to prevent wind throw damage, vandalism, or as directed by ENGINEER. Wire staking shall not be allowed, including garden hose enclosed wire.
- B. Flexible materials, such as strapping or commercially available ties that give as tree diameter increases, shall be used to stake plant material. Biodegradable material is recommended.

PART 4 PRUNING

- A. Dead, damaged, and rubbing or cross branches may be removed from landscape material, at the time of planting.

- B. Sucker sprouts shall be removed from the base of the all trees to be planted.
- C. No more than one-third of the crown of any tree shall be removed, at any time.

PART 5 MAINTENANCE

- A. Begin maintenance immediately following installation. Inspect trees at least once a week, during the installation and establishment period. Establishment date shall commence on the date that inspection by the Engineer indicates the tree furnished under this contract has been satisfactorily installed. Establishment period shall continue for a minimum 120 days.
- B. CONTRACTOR shall establish a regular watering that includes slow deep watering. Watering shall be on an as needed basis, as recommended, and during extremely hot or dry periods. CONTRACTOR shall water surrounding soil areas to promote root spread. CONTRACTOR shall be responsible for frequency of watering, to maintain soil moisture and tree health.
- C. CONTRACTOR shall provide landscape maintenance, to include fertilizer/herbicide applications, watering, weeding, pruning, and stake and guy wire adjustment, for all newly planted and relocated trees and landscape materials, for the establishment period.
- D. Final inspection and acceptance will be made upon written request from the CONTRACTOR, at least ten (10) days prior to the last day of the tree establishment period. Warranty period of at least two years shall begin at the establishment date.

PART 6 TREE REMOVAL

CONTRACTOR shall completely remove and properly dispose of landscape materials, trees and their roots, as shown on the Contract Documents and as directed by Engineer.

PART 7 PAYMENT AND WARRANTY

- A. Unit prices and payment for tree transplanting and new tree planting will be full compensation for installation of tree and landscape materials, and include all materials, equipment and labor necessary to plant the trees, and perform all maintenance, including watering and landscape health maintenance, pruning, and fertilizer/herbicide application. Unit price for each new or additional tree or landscape materials will be determined by adding 25% to the Supplier's invoice.
- B. CONTRACTOR shall replace landscape materials and trees that fail to establish properly during the establishment period, within three weeks notification.
- C. CONTRACTOR shall replace landscape materials and trees that do not survive the warranty period. Replaced landscape materials and trees shall have the same maintenance period and new period of warranty as the original plantings.

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SECTION 02930
FINISH GRADING AND GRASSING

PART 1 GENERAL

1.1 WORK INCLUDED

- A. This section covers the work necessary for establishing a standard of grass, including furnishing and placing of grass sod, and fertilizing, watering, and maintenance of sodded areas.
- B. See CONDITIONS OF THE CONTRACT and Division 1, GENERAL REQUIREMENTS, which contain information and requirements that apply to the work specified herein and are mandatory for this project.
- C. Areas disturbed by the CONTRACTOR whether inside or outside the limits of the trench area shall be restored in accordance with this Section. Areas outside the limits of trench shall be restored at the CONTRACTOR'S sole expense.

1.2 SUBMITTALS

- A. Shop Drawings: Product labels/data sheets.
- B. Quality Control Submittals: Certification of sod, include source harvest, date of sod, and sod seed mix.

PART 2 PRODUCTS

2.1 FERTILIZER

Commercial Fertilizer: A complete plant food, containing twelve percent nitrogen, eight percent available phosphoric acid, and eight percent potash, at least fifty percent of the phosphoric acid shall be from normal super phosphate or an equivalent source, which will have a minimum of two units of sulfur. Fertilizer shall be uniform in composition, dry, free flowing, and delivered in original, unopened containers bearing manufacture's guaranteed analysis.

2.2 SOD

- A. Sod shall be grown by a certified turf nursery. CONTRACTOR shall inform the owner as to the source of the sod to be used prior to ordering and delivery of sod.
- B. Sod shall be bahiagrass, free of weeds or growth detrimental to economical maintenance, proper establishment, or appearance of completed turf. It shall be well matted with roots and certified in writing to be free of weeds and mole crickets by the supplier. Mow to height of 3 inches before lifting.
- C. Dimensions: Sod shall be taken up in commercial-size rectangles, 12 inches by 24 inches or larger, except where the Contract Documents require six-inch strip sod.

2.3 WATER

Water used in grassing operations may be obtained from FKAA. CONTRACTOR shall make all arrangements and pay for all water costs required for the establishment and maintenance of grass.

2.4 TOPSOIL

Topsoil shall consist of a 50/50 ratio mixture of sand or crushed limerock screening or tailings of a gradation similar to coarse sand and organic material.

PART 3 EXECUTION

3.1 INSTALLATION

- A. These areas shall be fine graded to achieve the finished subgrade after compaction which shall be obtained by rolling, dragging, or by an approved method which obtains an equivalent compaction to that produced by a hand roller weighing from 75 to 100 pounds per foot of width. All depressions caused by settlement or rolling shall be filled with additional existing or furnished topsoil and re-graded and prepared, as specified above, until it presents a reasonably smooth and even finish as the required sod subgrade.
- B. All sod furnished shall be living sod, containing at least 70 percent of thickly matted grasses, as specified and free from noxious weeds.
- C. No broken pads or torn or uneven ends will be accepted. Standards size sections of sod shall be strong enough to support own weight and retain their size and shape, when suspended vertically with a firm grasp on the upper 10 percent of the section. Sod shall not be harvested when its moisture content (excessively wet or dry) may adversely affect its survival.
- D. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not installed within this time period shall be subject to inspection and rejection by owner, and shall be removed from the site and a fresh sod supply shall be furnished at no extra cost to the owner.
- E. The sub-grade shall not be moist at time of installation; however, it should contain sufficient moisture so as not to be powdery or dusty, both as determined by the supplier's representative.
- F. Overlapping of existing lawn with new sod along limit of work lines will not be permitted. Sod shall be laid in stripes, edge, with the lateral joints staggered. All minor or unavoidable openings in the sod shall be closed with sod plugs or with topsoil, as directed by the Engineer. Sod laid with joints determined to be too large shall be lifted and re-laid as specified herein, at no extra cost to the owner.
- G. Immediately after sod is laid, sod shall be watered thoroughly by hand or mechanical sprinkling, until the sod and at least 2 inches of the top soil bed have been thoroughly moistened.
- H. CONTRACTOR shall be responsible to furnish his own supply of water to the site at no extra cost. CONTRACTOR shall apply for temporary water meter and pay for water used at current utility billing rates, or furnish adequate water supplies at his own cost. All sod damaged by lack of, or use of too much, water shall be the CONTRACTOR's responsibility to correct.

3.2 MAINTENANCE

- A. **Maintenance Period: Begin maintenance immediately after each portion of grass is planted and continued for eight (8) weeks after all planting is completed.**

- B. Maintenance Operations: Maintenance shall include watering as specified, weeding and removal of stones, which may appear. All bare or dead spots which become apparent shall be properly prepared, limed and fertilized, and resodded at CONTRACTOR's expense as many times as necessary to secure a good growth. Mow to three inches after grass reaches four inches in height, and mow frequently enough to keep grass from exceeding 3-1/2 inches. Weed by local spot application of selective herbicide only after first planting season when grass is established.
- C. Take whatever measures are necessary to protect the sod while it is developing. These measures shall include furnishing warning signs, barriers, or any other necessary measures of protection.
- D. If, at the end of the eight-week maintenance period, a satisfactory stand of grass has not been produced, CONTRACTOR shall renovate and resod all unsatisfactory portions, immediately.

3.3 INSPECTION FOR ACCEPTANCE

Eight weeks after the start of maintenance on the last section of completed grass and on written notice from CONTRACTOR, ENGINEER will, within 15 days of such a written notice, make an inspection to determine if a satisfactory stand has been produced. If a satisfactory stand has not been established, another inspection will be made after written notice from CONTRACTOR stating grass is ready for inspection.

3.4 PAYMENT

- A. Payment for grading shall be included in the unit price for sidewalk installation earthwork.
- B. Payment for sod shall be at the unit price in the bid.

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DIVISION 3

CONCRETE

SECTION 03001
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this Section.

1.02 DESCRIPTION OF WORK:

- A. Formwork, shoring, bracing, and anchorage.
- B. Concrete reinforcement and accessories.
- C. Cast-in-place concrete.
- D. Non-shrink grout.

1.03 CONCRETE SAMPLING AND TESTING:

Concrete work that includes placement and/or construction of structural cast-in-place concrete shall be randomly sampled from each 200 cubic yards or one day's production, to determine the plastic properties and to make cylinders to ensure design compressive strength meets the requirements, as specified in the Contract Documents.

- A. Testing and analysis of concrete shall be performed in accordance with ACI-301 Specifications for Structural Concrete, latest edition.
- B. Submit proposed mix design for each class of concrete to appointed firm for review prior to commencement of work.
- C. Testing firm shall perform slump and air entrainment tests and take cylinders, in accordance with ACI 301 Specifications for Structural Concrete, latest edition.
- D. Tests of cement and aggregates shall be performed to ensure conformance with requirements stated herein.
- E. One slump test and one air content test will be taken for each set of test cylinders taken.

1.04 SUBMITTALS:

Submit shop drawings for reinforcing steel, in accordance with Division 1, General Requirements, Section 01001, Part 7, Submittals During Construction.

- A. Indicate reinforcement sizes, spacing, locations and quantities of reinforcing steel, bending and cutting schedules, splicing, and supporting and spacing devices.

PART 2 PRODUCTS

2.01 FORM MATERIALS:

- A. Form materials shall be of good quality, straight and true, in accordance with ACI 301 Specifications for Structural Concrete, latest edition.

- B. Chamfer strips shall be 3/4 inch made from molded plastic or wood, provided and kept in good condition as to produce uniform chamfered edges.
- C. Form ties and accessories shall be commercially manufactured types. The portion of ties cast into concrete shall not extend closer than 3/4 inch to finished surface of concrete.
- D. Form coating material shall be non-staining type that prevents bond with concrete and prevents absorption of water by forms.
- E. Epoxy patching compound shall be two component aggregate filled epoxy resin concrete patching compound.

2.02 FILL

AGGREGATES: Fine and coarse aggregates shall be regarded as separate ingredients. Each size of coarse aggregate, as well as the combination of sizes when two or more are used, shall conform to ASTM C33 and appropriate grading requirements of the applicable ASTM specifications.

GRANULAR FILL: Natural sand not having any piece of material larger than 1-inch, free from dirt, clay balls, or organic material, well graded from coarse to fine, containing sufficient finer material for proper compaction, and less than ten (10) percent by weight passing the No. 200 sieve. Payment shall be per the unit Price bid.

EARTH FILL: Earth must be free from rocks 2-inches or larger and other foreign materials. Earth fill is incidental to contract prices and may be obtained from the work sites.

2.03 REINFORCING STEEL:

Steel Bars for Concrete Reinforcement: ASTM A615, 60 ksi yield grade billet steel deformed bars, uncoated finish.

Steel Welded Wire Reinforcement for Concrete: Plain type, ASTM A185; coiled rolls; uncoated finish.

2.04 CONCRETE MATERIALS:

A. Portland Cement: ASTM C150, normal – Type 1 Portland, Grey color.

B. Concrete Aggregates (fine and coarse): ASTM C33.

C. Water: Clean and not detrimental to concrete.

2.05 ADMIXTURES:

Air-Entraining Admixtures for Concrete: ASTM C260

2.06 ACCESSORIES:

A. Vapor Barrier (PE sheeting): ASTM D2103, 6 mil thick clear polyethylene film.

B. Non-Shrink Grout: premixed compound with non-metallic aggregate, cement, water reducing and plasticizing agents, capable of minimum compressive strength of 5,000 psi.

C. Dovetail Anchor Slots: Galvanized steel; foam filled, release tapes; sealed slots; bent tab anchors.

D. Waterstops: Polyvinyl chloride; heat sealed joints.

2.07 CURING MATERIALS:

A. Water: Fresh (non-saline), clean and drinkable. Mixing water shall not contain chloride ions when combined with aggregates.

B. Liquid Membrane-Forming Curing Compound for Concrete: ASTM C309.

C. Clear Sealer Hardener: Chemhard or Fluohard by L7M Construction Chemicals, Inc.; Masterseal by Master Builders; Spartan Cote Cure-Seal-Hardener by the Burke Company.

2.08 READY-MIXED CONCRETE:

A. Ready-Mixed concrete in accordance with ASTM C94.

B. Concrete

1. Compressive Strength (28 days): 3,500 psi

2. Slump: Not less than 2" and not more than 5".

PART 3 EXECUTION

3.01 FORMWORK ERECTION:

A. Verify lines, levels, and measurements before proceeding with formwork.

B. Preparation of subgrade for slabs on ground shall conform to the requirements of ACI 301, latest edition.

C. Earth forms are not allowed.

D. Align form panels on each side of the panel joint with fasteners common to both panels. Coordinate work of other sections in forming and setting openings, slots, recesses, chases, sleeves, bolts, anchors, and other inserts. Construction Joints shall conform to the requirements of ACI 301, latest edition.

E. Formwork shall be designed and erected in accordance with the requirements of ACI 301, latest edition. Smooth form liners that eliminate surface irregularities shall be used with steel framed panel forms.

F. Edge forms and pipe screeds shall support vibrating or roller pipe screeds. Concrete surface shall be aligned to contour screeds by the use of strike-off templates or approved compacting type screeds.

G. All form surfaces shall be prepared in accordance with ACI 301, latest edition. All form surfaces shall be coated with specified coating material, in accordance with the manufacturer's instructions prior to install of reinforcing steel. Form release agents are not allowed, where

concrete surfaces receive special finishes or applied coatings that may be affected by form release agent.

3.02 REINFORCEMENT:

- A. Clean reinforcement of loose rust and mill scale, earth, and other materials that destroy bond with concrete.
- B. Place, support, and secure reinforcement against displacement.
- C. Install welded wire fabric in as long lengths as practical. Lap joints at least one full mesh and lace with wire. Hold mesh to top of slab when pouring cone.

3.03 PLACING CONCRETE:

- A. Conveying of concrete shall conform to the requirements of ACI 301, latest edition. Concrete truck traffic will not be permitted over reinforcing steel or vapor barrier.
- B. Depositing of concrete shall conform to the requirements of ACI 301, latest edition. Concrete shall not be placed on subgrade or forms more rapidly than it can be spread, straightened and floated. Size of finishing crews shall be planned with regard to the effects of concrete temperature and weather conditions on the rate of hardening, to avoid cold joints.
- C. Concrete in slabs shall be thoroughly consolidated using vibrating screeds, roller pipe screeds, internal vibrators, or other approved means.
- D. Notify the City a minimum 24 hours prior to commencement of concrete placement operations.

PART 4 PAYMENT

Payment shall be made at the unit price stated in the Bid, to include labor, equipment and materials.

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SECTION 03002
CONCRETE PLACEMENT, CURBS AND SIDEWALKS

PART 1 SCOPE

1.1 WORK INCLUDED:

This section covers all formed concrete work reinforced and non-reinforced, as required by the Contract Documents, as indicated on the plans or specified by the Engineer.

CONTRACTOR shall be responsible for all site work and construction supervision required to meet ADAAG /ADA specifications when placing concrete.

During construction, CONTRACTOR shall provide temporary pedestrian access routes through or around construction sites, at no cost to Owner. Temporary pedestrian access routes shall be shall be compliant with the American with Disabilities Act standards and guidelines, and protect pedestrians from vehicular traffic and work zone operations.

1.2 SUBMITTALS DURING CONSTRUCTION:

A. Submit shop drawings for reinforcing steel, in accordance with Division 1, General Requirements, Section 01001, Part 7, Submittals During Construction.

B. SUBMITTALS REQUIRED FOR:

1. Concrete - Submit data sheets
2. Granular fill - Submit data sheets
3. Expansion joint fillers - Submit data sheets
4. Traffic paint - Submit data sheets
5. Asphalt concrete cold patch - submit data sheets
6. Asphalt Hot Mix – submit data sheets
7. Sod - submit data sheets
8. Stamped and Colored concrete-submit data sheets
9. Detectable Warnings System: - submit data sheets
10. Concrete Sealer - submit data sheets

1.3 CONCRETE SAMPLING AND TESTING

Concrete work that includes construction of sidewalks, curb and gutter, ditch and slope pavement, or other non-reinforced cast-in-place elements shall be sampled and tested to verify quality, as directed by Engineer. Minimum 28-day compressive strength requirement for this concrete shall be 3,500 psi.

PART 2 MATERIALS

2.1 FORMS

A. Materials for curb forms shall be two-inch dressed dimension lumber, fiberglass, or metal of equal strength, free from defects which would impair the appearance or structural quality of the complete curb. Where short-radius forms are required, one-inch dressed lumber or plywood may be used. Form material for the face of the curb shall not have any horizontal joints closer than seven inches from the top of the curb. Provide stakes and bracing

materials, as required to hold forms securely in place. Metal forms shall be subject to approval by the Engineer. Forms are incidental to the Contract Price.

- B. Materials for sidewalk forms shall be two-inch dressed lumber straight and free from defects or fiberglass or standard metal forms may be used. Where short radius forms are required, one-inch dressed lumber or plywood may be used. Provide stakes and bracing materials, as required to hold forms securely in place.

2.2 GRANULAR FILL

Natural sand not having any piece of material larger than one-inch, free from dirt, clay balls, or organic material, well graded from coarse to fine, containing sufficient finer material for proper compaction, and less than ten (10) percent by weight passing the No. 200 sieve. Payment shall be per the unit Price bid.

2.3 EARTH FILL

Earth must be free from rocks two inches or larger and other foreign materials. Earth fill is incidental to contract prices.

2.4 EXPANSION JOINT FILLER

Expansion joint filler shall be two-inch thick, preformed asphalt-impregnated, expansion joint material conforming to ASTM D994. Submit complete information regarding joint fillers for approval by the Engineer. Payment shall be per unit price bid.

2.5 CONCRETE:

Concrete shall be ready-mixed conforming to FDOT Specification Sections 347 and 350, having a minimum compressive strength of 3,500 psi at 28 days. Maximum size of aggregate shall be one-inch. Slump shall be between two and four inches. Submit complete information regarding mix to Engineer for review, in conformance with ASTM Specification C 94/C 94M.

Work includes the construction of sidewalks, curb and gutter, ditch and slope pavement, or other non-reinforced cast-in- place or precast elements. Concrete Production Requirements: Use concrete production facilities certified by the National Ready-Mixed Concrete Association (NRMCA), approved by the FDOT.

Payment for completed concrete structures shall be paid as bid in the Bid.

2.6 REINFORCING STEEL

Reinforcing mesh shall be 6 x 6, #6/6 woven wire mesh placed equal distance between the bottom and top of the concrete slab. Precautions will be taken to insure the mesh remains in this position during the placement and finishing of the concrete slab.

2.7 DETECTABLE WARNING SYSTEM:

Detectable Warning Systems on walking surfaces shall be "Endicott Handicap Detectable Warning Paver" or equal with raised truncated domes and specified color and must meet federal ADAAG guidelines. Payment shall be per unit Price bid.

2.8 TRAFFIC MARKING PAINT

Reflective traffic marking paint shall conform to FDOT Specifications, Section 971. Paint for curbs shall be Pride Baker Paint brand traffic marking paint or approved equal. Paint and labor shall be incidental to contract price for replacement markings and the unit price bid for new markings.

2.9 ASPHALT

Cold patch asphalt. Asphalt and labor shall be incidental to the contract price for patches surrounding curbs and sidewalks. Hot mix asphalt conforming to FDOT Specification Section 334 Superpave Asphalt Concrete. Payment shall be paid at the unit price bid for asphalt paving repairs.

2.10 GRASSING

See Finish Grading and Grassing. Sod shall be of the bahiagrass sod, conforming to FDOT Specification Section 981. Payment shall be paid as bid in the Bid.

2.11 ACCEPTANCE OF MATERIALS

All materials shall be subject to inspection for suitability, as the Engineer may elect, prior to or during incorporation into the work.

PART 3 WORKMANSHIP

3.1 EXCAVATION AND BACKFILL:

- A. Cut the existing sidewalk regardless of the thickness, with an approved pavement saw or approved pavement cutter wherever sidewalk edges do not follow straight lines. Saw cutting of concrete shall be wet down to reduce airborne contamination. Remove and dispose of sidewalk at the CONTRACTOR's expense.
- B. Prior to excavation of the sidewalk, CONTRACTOR's superintendent and the Owner's Engineer or designee shall, together, walk the length of the site marking the limits of the excavation and marking any other pertinent information. Paint shall be supplied by the CONTRACTOR, incidental to the cost of the Contract.
- C. At the time of each walk through, each water meter box and sewer cleanout shall be inspected for structural integrity. Those which are deemed in need of replacement at that time will be supplied by the contractor at the unit price bid or the Florida Keys Aqueduct Authority. Those which meet normal structural and functional standards and are broken by the Contractor during the construction process shall be replaced by the Contractor at his cost.
 1. Sewer cleanout boxes shall be made from 100% homogenous polyethylene material having a minimum wall thickness of .550 inch, a compartment size of 12-inches by 20-inches with a clear opening of 10-inches by 17-inches. Provide knockouts or notches in each end sized to allow placement of a 6-inch PVC pipe inside the box. Vertical crush to exceed 20,000 pounds and sidewall loading to exceed 180 pounds per square inch. A flange shall encircle the top area for installation in concrete. Cleanout covers shall be cast of ductile conforming to ASTM A-536-84, grade 60-40-18. Meter box covers shall meet or exceed Federal specifications RR-F-621D, for a minimum proof load of 25,000 pounds on 9"x 9" area. All boxes and covers shall be manufactured by Mid-States

Plastics, Mount Sterling, KY. Florida Master Distributor: Ferguson Water Works, or approved equal.

2. Water meter boxes shall be Mid-States MS # 15P meter box or equal. Covers shall have cast iron reading lid.
- D. As directed by the Engineer, remove any unsuitable material to such a depth that the addition of the subgrade and granular fill can be placed and compacted. Unsuitable material shall consist of and not be limited to top soil, wood, root matter, stumps, trunks, roots or root systems. Excavation that cannot be accomplished without endangering present structures shall be performed with hand tools.
- 3.2 **PREPARATION OF SUBGRADE:**
Bring the areas on which curbs and sidewalks are to be constructed to required grade and compact to 98 percent ASTM D1557 by sprinkling and rolling or mechanical tamping. As depressions occur, refill with approved material and re-compact until surface is at proper grade.
- 3.3 **PLACING GRANULAR FILL:**
After sub-grade for sidewalks and curbs is compacted and at the proper grade, spread four inches or more of granular fill. Sprinkle with water and compact to 98 percent ASTM D1557 by rolling or other method. Top of the compacted fill shall be at the proper level to receive concrete. Granular fill shall be used, when needed, to raise level of grade to allow for proper thickness of concrete. After spreading fill, compact to 98 percent compaction.
- 3.4 **SETTING FORMS:**
- A. Construct forms to the shape, lines, grades, and dimensions as required for proper installation or as called for on the drawings or as directed by the Engineer. Stake wood or steel forms securely in place, true to line and grade.
 - B. Provide forms at front and back of curbs. Forms on the face of the curb shall not have any horizontal joints within seven (7) inches of the top of the curb. Brace forms to prevent change of shape or movement in any direction resulting from the weight of the concrete during placement. Construct short-radius forms to exact radius. Tops of forms shall not depart from grade line more than 1/8-inch when checked with a ten-foot straightedge. Alignment of straight sections shall not vary more than 1/8-inch in ten (10) feet.
- 3.5 **CURB/GUTTER CONSTRUCTION:**
- A. Construct curbs to line and grade of curbs and gutters removed, as shown on plans or as established or directed by the Engineer. Curbs shall conform to FDOT Type D or Type F, as directed by the Engineer.
 - B. Handicap ramps shall be constructed at locations shown on the drawings or as directed by the Engineer and in conformance with legal requirements.
 - C. Place preformed asphalt-impregnated expansion joints at intervals not exceeding 100 feet, at the beginning and ends of the curved portions of the curbs and at inlets and between all private structures and new concrete.

- D. Place contraction joints in the curb at intervals not exceeding fifteen (15) feet. Contraction joints shall be of the open joint type and shall be provided by inserting a thin, oiled steel sheet vertically into the fresh concrete to force coarse aggregate away from the joint. Steel sheet shall be inserted the full depth of the curb. Place, process, finish and cure concrete in conformance with the applicable requirements of ACI 614, and this Specification. Whenever the requirements differ, the higher shall govern. After initial set has occurred in the concrete and prior to removing the front curb form, the steel sheet shall be removed with a sawing motion. Finish top of curb with a steel trowel and finish edges with a steel edging tool.
- E. As soon as the concrete has set sufficiently to support its own weight, remove the front form and finish all exposed surfaces. Finish formed face by rubbing with a burlap sack or similar device that will produce a uniformly textured surface, free of form marks, honeycombs and other defects. All defective concrete shall be removed and replaced at the Contractor's sole expense.
- F. Upon completion of the curing period, backfill the curb with earth, free from rocks 2-inches and larger and other foreign materials. Tamp backfill firmly in place.
- G. Finished curb shall present a uniform appearance for both grade and alignment. Remove any section of curb showing abrupt changes in alignment or grade, or which is more than 1/4-inch away from its location as staked, and construct new curb in its place at the Contractor's sole expense.
- H. Upon completion of the curing period, fill with asphalt any street side holes or ruts in the asphalt paving that was created by the installation of the sidewalk or the curb. When required by Engineer, sawcut, remove and replace sections as directed.
- I. Where curbs that were painted for legal traffic markings (i.e., loading zones, driveways, no parking zones) prior to construction are removed, replaced, repaired or installed. These and any newly constructed curbs and sidewalks shall be repainted by the Contractor. Painting shall be performed upon completion of the curing period, but not less than seven (7) days have elapsed since pouring the concrete. Curbs are to be painted from the inside edge of the curb to the edge of the pavement.

3.6 SIDEWALK CONSTRUCTION:

- A. Sidewalks shall be four inches or six inches thick, or as directed by the Engineer. Reinforcing mesh shall be as indicated in Paragraph 2.6.
- B. At locations where new sidewalk is to abut existing concrete, saw-cut concrete for a depth of two inches and chip old concrete back to sound material, on a straight line. Clean the surface and apply neat cement paste, just prior to pouring new sidewalk.
- C. Place preformed asphalt expansion joints as in the adjacent curb, where the sidewalk ends at a curb, around posts, poles, concrete buildings or walls or other objects protruding through the sidewalk at intervals not exceeding 45 feet and at the beginning and end of curved portions of sidewalks, and at locations shown on the Drawings.

- D. Provide dummy joints transversely to the walks at locations opposite the contraction joints in the curb and at intervals not exceeding five (5) feet. These joints shall be 1/4-inch by one-inch weakened plane joints. Joints shall be straight and at right angles to the surface of the sidewalk.
- E. Place, process, finish, and cure concrete in conformance with the applicable requirements of ACI 614 and this Specification. Where the requirements differ, the more stringent requirement shall govern.
- F. Broom the surface with a fine-hair broom at right angles to the length of the walk and tool all edges, joints and markings. Mark the walks transversely at five-foot intervals with a jointing tool. Protect the sidewalk from damage for a period of seven (7) days. Upon completion of finishing, apply an approved curing compound to exposed surfaces.
- G. Sidewalks shall be placed to slope towards the street at a maximum slope of 2%, or as otherwise directed by the Engineer.
- H. Where sidewalks or curbs which were painted for legal traffic markings (i.e., loading zone, driveways, no parking zones) are removed and replaced with new curb or sidewalk or repaired, the Contractor shall be responsible to paint the new portions of the curbs or sidewalks in accordance with the Contract Documents.
- I. Upon completion of the curing period, fill with asphalt all street side holes or ruts in the asphalt paving that were created by the installation of the curbs or sidewalks.

3.7 GRASSING

- A. Grassing shall take place in locations as directed by the Engineer. All grassing shall be sodding.
- B. Sodding: Before sod is laid, correct soft spots and inequalities in grade of prepared bed. Lay so that no voids occur and tamp or roll, brush or rake granular fill with no lumps or stones larger than 3/4-inch over sodded area, water sod thoroughly. Complete sod surface true to finished grade, even and firm.
- C. Maintenance:
 - 1. Maintenance period: Begin maintenance immediately after each portion of lawn and grass is planted and continue for eight weeks after all lawn planting is completed.
 - 2. Maintenance Operations: Water to keep surface soil moist. Repair washed out areas by filling with topsoil, liming, fertilizing and seeding. Mow to three inches after grass reaches four inches in height, and mow frequently enough to keep grass from exceeding four inches. Weed by local spot application of selective herbicide only after first planting season when grass is established.
- D. Guarantee:
 - 1. If, at the end of the eight-week lawn maintenance period, a satisfactory stand of lawn or grass has not been produced, CONTRACTOR shall renovate and reseed the lawn or grass or unsatisfactory portions thereof immediately, at CONTRACTOR's sole expense.

2. A satisfactory stand is defined as a lawn or grass or section of lawn or grass that has:
 - a. No bare spot larger than three square feet.
 - b. Not more than ten percent of total area with bare spots larger than one square foot.
 - c. Not more than 15 percent of total area with bare spots larger than six inches square.

- E. Inspection for Acceptance: Eight weeks after the start of maintenance on the last section of completed lawn, and on written notice from the Contractor, the Engineer will, within 15 days of such written notice, make and inspection to determine, if a satisfactory stand has been produced. If a satisfactory stand has not been established, another inspection will be made after written notice from the Contractor that the lawn is ready for inspection following the next growing season.

3.8 DETECTABLE WARNING SYSTEM:

Detectable Warning Systems on walking surfaces shall be “Endicott Handicap Detectable Warning Paver” or equal with raised truncated domes and specified color or equal and follow all manufacturers’ instructions for installation and sealing and meet federal ADAAG guidelines.

PART 4 PAYMENT

4.1 GENERAL:

Payment for the work in this section will be included as part of the applicable unit prices stated in the Contractor's Bid, except where work is considered incidental to the contract price. Payment shall be considered full compensation for furnishing all labor, materials, and equipment to complete the work specified in this Contract. Maintenance of Traffic shall be considered incidental to work performed.

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