The Enclosed Document Is
Provided For Your Convenience.

+Register As A "Planholder"
To Be Listed on the Webpage,
To be Found by Potential
Sub-Contractors,
And to Be Officially Notified of
Addenda.

For Assistance or
To Register
Contact:

MailTo:ContractAdministration@TampaGov.net

(813)274-8456, fax 274-8080
Contract Administration Department
306 E. Jackson St. #280A4N
Tampa, FL 33602

CITY OF
TAMPA, FLORIDA

NOTICE TO BIDDERS, INSTRUCTIONS TO BIDDERS
PROPOSAL, BID BOND, FORM OF NOTICE OF AWARD,
AGREEMENT, PERFORMANCE BOND AND
SPECIFICATIONS

FOR

Contract 11-C-00055

TAMPA HISTORY MUSEUM COURTESY DOCKS

PROJECT PW7401

City of Tampa
CONTRACT ADMINISTRATION DEPARTMENT
TAMPA MUNICIPAL OFFICE BUILDING
306 E. JACKSON STREET - 4TH FLOOR NORTH
TAMPA, FLORIDA 33602

NOVEMBER 2011

CITY OF TAMPA
CONTRACT ADMINISTRATION DEPARTMENT
306 E. Jackson Street 280A4N
Tampa, FL 33602

****

BID NOTICE MEMO

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Bids will be received no later than 1:30 p.m. on the indicated Date(s) for the following Project(s):

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CONTRACT NO.: 11-C-00055; Tampa History Museum Courtesy Docks
BID DATE: December 13, 2011 ESTIMATE: $411,000 SCOPE: The project comprises the construction of concrete slab, concrete trestle, gangway landing platform, gangway, floating docks, ADA-compliant landside connection and gangway, bollards, electrical work.
PRE-BID CONFERENCE: Tuesday, November 29, 2011, 2:00p.m.

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Bids will be opened in the 4th Floor Conference Room, Tampa Municipal Office Building, 306 E. Jackson Street, Tampa, Florida 33602. Pre-Bid Conference is held at the same location unless otherwise indicated. Plans and Specifications for this work may be examined at, and downloaded from, the Contract Administration Department website listed below. Subcontracting opportunities may exist for City certified Small Local Business Enterprises (SLBEs). A copy of the current SLBE directory may be obtained at www.Tampagov.net. Phone (813) 274-8456 for assistance. Email Technical Questions to: contractadministration@tampagov.net . Visit http://www.tampagov.net/dept_contract_administration/programs_and_services/construction_project_bidding/index.asp for Project Listings and any Addenda.

TABLE OF CONTENTS

NOTICE TO BIDDERS
CITY OF TAMPA, FLORIDA
Contract 11-C-00055; Tampa History Museum Courtesy Docks

Sealed Proposals will be received by the City of Tampa no later than 1:30 P.M., December 13, 2011, in the 4th Floor Conference Room, Tampa Municipal Office Building, 306 E. Jackson Street, Tampa, Florida, there to be publicly opened and read aloud.

The proposed work is to include, but not be limited to, construction of floating docks, ADA-compliant landside connection and gangway, bollards and electrical work with all associated work required for a complete project in accordance with the Contract Documents.

The Instructions to Bidders, Proposal, Form of Bid Bond, Agreement, Form of Public Construction Bond, Specifications, Plans and other Contract Documents may be downloaded from the website at: http://www.tampagov.net/dept_contract_administration/programs_and_services/construction_project_bidding/index.asp. One set may be available for reference at the office of the Contract Administration Department, Municipal Office Building, Fourth Floor North, City Hall Plaza, Tampa, Florida 33602.

Each Proposal must be submitted on the Proposal form included in the Specifications and must be accompanied by a certified check or cashier's check on a solvent bank or trust company in compliance with Section 255.051, Florida Statutes, made payable to the City of Tampa, in an amount of not less than five per cent of the total bid, or a Bid Bond, of like amount, on the form set forth in the Contract Documents, as a guarantee that, if the Proposal is accepted, the Bidder will execute the Proposed Contract and furnish Performance and Payment Bonds within twenty (20) days after receipt of Notice of Award of Contract.

The City of Tampa reserves the right to reject any or all Bids and to waive any informalities in the Bid and/or Bid Bond. Acceptance or rejection of Proposals will be made as soon as practicable after the Proposals are received, but the City reserves the right to hold Proposals for ninety (90) days from the date of Opening.

Bid Protest Procedures: Unless subsequently indicated otherwise, in a revised posting on the Department's web page for Construction Project Bidding, the City of Tampa intends to award the referenced project to the lowest bidder listed in the tabulation posted on or about the date of Bid Opening. A bidder aggrieved by this decision may file a protest not later than 4:30 P.M., three (3) business days from the first posting thereof, pursuant to City of Tampa Code Chapter 2, Article V, Division 3, Section 2-282, Procurement Protest Procedures. Protests not conforming therewith shall not be reviewed.

"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." Refer to Section 287.133 Florida Statues.

In accordance with the City of Tampa's Equal Business Opportunity Ordinance, a Goal may have been established for subcontracting with Small Local Business Enterprises, SLBEs, certified by the City. Links to further information and a list of SLBEs are on the Department's Construction Project Bidding Web page. A link to the current complete directory of SLBEs is on the Minority Business Development Office Website.

INSTRUCTIONS TO BIDDERS
SECTION 1 - SPECIAL INSTRUCTIONS

I-1.01 GENERAL:

The proposed work is the Tampa History Museum Courtesy Docks in the City of Tampa, as required for a complete project, as shown on the plans and detailed in the specifications. The work is located on land owned or controlled by the City of Tampa.

I-1.02 FORM PREPARATION AND PRESENTATION OF PROPOSALS: Replace the second sentence with the following: Submission of the entire specification book is not required.

I-1.03 ADDENDA – Section I-2.03 is replaced with the following: No interpretation of the meaning of the Plans, Specifications, or other Contract Documents will be made to any Bidder orally.

Every request for such interpretation must be in writing, addressed to the City of Tampa, Contract Administration Department, 306 E. Jackson St., 4th Floor, Tampa, Florida 33602 and then email to ContractAdministration@tampagov.net. To be given consideration, such request must be received at least seven (7) days prior to the date fixed for the opening of the Proposals. Any and all such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be posted on the Department's web page, with notice given to all prospective bidders at the respective fax numbers or e-mail addresses furnished, for such purposes. Failure of any Bidder to receive any such addenda shall not relieve said Bidder from any obligation under his Proposal as submitted. All addenda so issued shall become part of the Contract Documents.

I-1.04 SIGNATURE OF BIDDERS: Section I-2.07 is replaced with the following:

Proposals must be signed in ink by the Bidder with signature in full. When firm is a Bidder, the Proposal shall be signed in the name of the firm by one or more partners. When a corporation is a bidder the officer signing shall set out the corporate name in full beneath which he shall sign his name and give the title of his office. The Proposal shall also bear the seal of the corporation attested by its secretary.

If the bidder referred to in Section I-2.07 is a corporation, it must submit; upon request, a copy of its filed Articles of Incorporation. In addition, if the bidder was incorporated in another state, it must establish that it is authorized to do business in the State of Florida. If the bidder is using a fictitious name, it must submit upon request, proof of registration of such name with the Clerk of the Circuit Court of the Country where its principal place of business is. Failure to submit what is required is grounds to reject the bid of that bidder.

I-1.05 TIME FOR COMPLETION:

The work shall be arranged to be completed in accordance with a progress schedule approved by the Construction Engineer.

The time for completion of this project, referred in Article 4.01 of the Agreement, shall be 180 consecutive calendar days. The period for performance shall start from the date indicated in the Notice To Proceed.

The construction schedule may be adjusted from time to time to accommodate Republican National Convention activities.

I-1.06 LIQUIDATED DAMAGES:

The amount of liquidated damages, referred to in Article 4.06 of the Agreement, for completion of this project shall be $500.00 per calendar day.

I-1.07 BASIS OF AWARD OF CONTRACT:

The basis of award referred to in Item I-2.11 of Instructions to Bidders shall be the greatest amount of work, which can be accomplished within the funds available as budgeted. The award may be made on the basis of the total bid, base bid, alternates(s) if any, unit bids if any, or any combination thereof deemed to be in the best interest of the City.

INSTRUCTIONS TO BIDDERS
SECTION 1 - SPECIAL INSTRUCTIONS

Unless all bids are rejected, the award will be made within 90 days after opening proposals.

I-1.08 GROUND BREAKING CEREMONY:

Arrangement may be made by the City in coordination with the Contractor, for construction to commence with a Ground Breaking Ceremony. Details will be discussed at the pre-construction conference.

I-1.09 INSURANCE:

The insurance required for this project shall be as indicated on Pages beginning with INS-1. Before commencing work, the Contractor shall provide the evidence of the insurance required on a Certificate of Insurance accompanied by evidence of authority to bind the insurance company or companies such as agents license, power of attorney, or letter of authority.

I-1.10 EQUAL BUSINESS OPPORTUNITY PROGRAM / SLBE / REQUIREMENTS

In accordance with the City of Tampa's Equal Business Opportunity Ordinance, a goal of 9.5% has been established for subcontracting with Small Local Business Enterprises, (SLBEs), certified by the City. The goal is based upon the availability of the firms listed on the Goal Worksheet and as posted in the "SLBEs" link under this Contract's notice on the Department's Construction Project Bidding web page.

BIDDERS MUST SOLICIT ALL SLBEs ON THAT LIST and provide documentation of emails, faxes, phone calls, letters, or other communication with the firms as a first step to demonstrate Good Faith Efforts to achieve the goal. The list is formatted to facilitate e-mail solicitations to the listed firms by copying and pasting e-mail addresses.

Bidders may explore other opportunities for subcontracting with SLBEs by consulting the current directory of all certified SLBEs posted on the Minority Business Development Office web page.

GOOD FAITH EFFORT COMPLIANCE PLAN REQUIRED - When a Goal has been established, the Bidder must submit, with its bid, completed to the fullest extent possible, a Good Faith Effort Compliance Plan using the form GFECP contained herein. Additional documentation is required whenever an SLBE subcontractor's low quote is not utilized. Supplemental information or documentation concerning the Bidder's Compliance Plan may be required prior to award as requested by the City.

DIVERSITY MANAGEMENT INITIATIVE, DMI, DATA REPORTING FORMS REQUIRED - Bidders must submit, with its bid, "DMI-Solicited" forms listing all subcontractors solicited and "DMI-Utilized" forms listing all subcontractors to be utilized. Supplemental forms, documentation, or information may be submitted at bid time or as requested by the City.

After an award, "DMI-Payments" forms are to be submitted with payment requests to report payments to subcontractors.

Bidders may visit the Minority Business Development Office's web page at TampaGov.net for other information about the SLBE program, FAQ's, and the latest SLBE directory of certified firms.

I-1.11 BID SECURITY:

Surety companies shall have a rating of not less than B+ Class VI as evaluated in the most recently circulated Best Key rating Guide Property-Liability.

I-1.12 PUBLIC CONSTRUCTION BOND:

The Bidder who is awarded the Contract will be required to furnish a Public Construction Bond upon the forms provided herein, each equal to 100 percent of the Contract price, such Bonds to be issued and executed by (a) surety company(ies) acceptable to the City of Tampa and licensed to underwrite contracts in the State of Florida.

INSTRUCTIONS TO BIDDERS
SECTION 1 - SPECIAL INSTRUCTIONS

I-1.13 AGREEMENT
Section 2 – Powers of the City's Representatives; Add the following:
Article 2.05 CITY'S TERMINATION FOR CONVENIENCE:

The City may, at any time, terminate the Contract in whole or in part for the City's convenience and without cause. Termination by the City under this Paragraph shall be by a notice of termination delivered to the Contractor, specify the extent of termination and the effective date.

Upon receipt of a notice of termination, the Contractor shall immediately, in accordance with instructions from the City, proceed with performance of the following duties regardless of delay in determining or adjusting amounts due under this Paragraph:

(a) cease operations as specified in the notice;
(b) place no further orders and enter into no further subcontracts for materials, labor, services or facilities except as necessary to complete continued portions of the Contract;
(c) terminate all subcontracts and orders to the extent they relate to the Work terminated;
(d) proceed to complete the performance of Work not terminated; and
(e) take actions that may be necessary, or that the City may direct, for the protection and preservation of the terminated Work.

The amount to be paid to the Contract by the City because of the termination shall consist of:

(a) for costs related to work performed on the terminated portion of the Work prior to the effective date including termination costs relative to subcontracts that are properly chargeable to the terminated portion of the Work.
(b) the reasonable costs of settlement of the Work terminated, including accounting, legal, clerical and other expenses reasonable necessary for the preparation of termination settlement proposals and supporting data; additional costs of termination and settlement of subcontracts excluding amounts of such settlements; and storage, transportation, and other costs incurred which are reasonably necessary for the preservation, protection or disposition of the terminated Work; and
(c) a fair and reasonable profit on the completed Work unless the Contractor would have sustained a loss on the entire Contract had it been completed.

Allowance shall be made for payments previously made to the Contractor for the terminated portion of the Work, and claims which the City has against the Contractor under the Contract, and for the value of materials supplies, equipment or other items that are part of the costs of the Work to be disposed of by the Contractor.

I-1.14 Section 5 – subcontracts and Assignments, Article 5.01, Page A-7, Last Paragraph:
Change "…twenty-five (25) percent… "to fifty-one (51) percent…"

Section 10-Payments
Article 10.25 Partial Payments, 1st Paragraph, 1st Sentence:
Change "…fair value of the work done, and may apply for…" to "…fair value of the work done, and shall apply for…"

I-1.15 The CONTRACTOR shall maintain accurate books, records, documents and other evidence that sufficiently and properly reflect all direct and indirect costs of any nature expended in the performance of this Agreement, in accordance with generally accepted accounting principles. The CONTRACTOR shall allow the CITY, the State or other authorized representatives, access to periodically inspect, review or audit such documents as books, vouchers, records, reports, canceled checks and any and all similar material. Such audit may include examination and review of the source and application of all funds whether from the state, local or federal government, private sources or otherwise. These records shall be maintained for five (5) years following the close of the Agreement. In the event any work is subcontracted, the CONTRACTOR shall require each subcontractor to similarly maintain and allow access to such records for audit purposes.

I-1.16 Contractors must utilize the U.S. Department of Homeland Security's E-Verify Systems to verify the employment eligibility of all persons employed during the term of the contract to perform employment duties within the State of Florida and all persons, including subcontractors, assigned by the contractor to perform work pursuant to the contract.

INSTRUCTIONS TO BIDDERS
SECTION 1 - SPECIAL INSTRUCTIONS

I-1.17 General Provisions;G-2.02 Copies Furnished to Contractor; Replace the first paragraph with the following:

The Contractor shall acquire for its use copies of the plans and specifications as needed. The documents may be downloaded from the City's web site, at
http://www.tampagov.net/dept_contract_administration/programs_and_services/construction_project_bidding/index.asp

I-1.18 PAYMENT DISPUTE RESOLUTION

Any dispute pertaining to pay requests must be presented to the City pursuant to Executive Order 2003-1.

SECTION 2
GENERAL INSTRUCTIONS

I-2.01 BIDDER'S RESPONSIBILITY
Before submitting Proposals, Bidders shall carefully examine the entire site of the proposed work and adjacent premises and the various means of approach and access to the site, and make all necessary investigations to inform themselves thoroughly as to the facilities necessary for delivering, placing and operating the necessary construction equipment, and for delivering and handling materials at the site, and inform themselves thoroughly as to all difficulties involved in the completion of all the work in accordance with the Contract Documents.

Bidders must examine the Plans, Specifications, and other Contract Documents and shall exercise their own judgment as to the nature and amount of the whole of the work to be done, and for the bid prices must assume all risk of variance, by whomsoever made, in any computation or statement of amounts or quantities necessary to complete the work in strict compliance with the Contract Documents.

Elevations of the ground are shown on the Plans and are believed to be reasonably correct, but are not guaranteed to be absolutely so and are presented only as an approximation. Bidders shall satisfy themselves as to the correctness of all elevations.

The City may have acquired, for its own use, certain information relating to the character of materials, earth formations, probable profiles of the ground, conditions below ground, and water surfaces to be encountered at the site of the proposed work. This information, if it exists, is on file at the offices of the Department of Public Works and Bidders will be permitted to see and examine this information for whatever value they consider it worth. However, this information is not guaranteed, and Bidders should satisfy themselves by making borings or test pits, or by such other methods as they may prefer, as to the character, location, and amounts of water, peat, clay, sand, quicksand, gravel, boulders, conglomerate, rock, gas or other material to be encountered or work to be performed.

Various underground and overhead structures and utilities are shown on the plans. The location and dimensions of such structures and utilities, where given, are believed to be reasonably correct, but do not purport to be absolutely so. These structures and utilities are plotted on the Plans for the information of the Bidders, but information so given is not to be construed as a representation or assurance that such structures will be found or encountered as plotted, or that such information is complete or accurate.

I-2.02 FORM, PREPARATION AND PRESENTATION OF PROPOSALS
Each Proposal shall be submitted upon the Proposal Form and in accordance with the instructions included herein. The Proposal Form must not be detached herefrom. All blank spaces for bid prices must be filled in, in both words and figures, with the unit or lump sum prices, or both, for which the Proposal is made. The computed total price for each unit price Contract Item shall be determined by multiplying the estimated quantity of the item, as set forth in the Proposal Form, by the corresponding unit price bid for such item. The resulting product shall be entered in the appropriate blank space under the column headed "Computed Total Price for Item". The lump sum price bid for each lump sum price Contract Item shall also be entered in the column headed "Computed Total Price for Item". If a Proposal contains any omissions, erasures, alterations, additions, or items not called for in the itemized Proposal, or contains irregularities of any kind, such may constitute sufficient cause for rejection of the Proposal. In case of any discrepancy in the unit price or amount bid for any item in the Proposal, the price as expressed in written words will govern. In no case is the Agreement Form to be filled out or signed by the Bidder.

In the case of certain jobs bid Lump Sum a "Schedule of Unit Prices" must be filled out as an attachment to the Lump Sum proposal. These prices may be used as a guide for the negotiation of change orders, at the City's option.

The proposal must be signed and certified and be presented on the prescribed form in a sealed envelope on/or before the time and at the place stated in the Notice of Bidders, endorsed with the name of the person, firm or corporation presenting it, the date of presentation, and the title of the work for which the Proposal is made.

Unless the apparent low bidder is now engaged in or has recently completed contract work for the City of Tampa, he, if requested, shall furnish to the City, after the opening of bids and prior to award, a summary statement of record of construction experience over the past three (3) years with proper supporting evidence, and, if required by the City, shall also furnish a list of equipment and other facilities pertinent to and available for the proper execution of the proposed work, and a statement of financial resources to the extent necessary to establish ability to carry on the proposed work. The City may make further investigations as considered necessary with respect to responsibility of the Bidder to whom it appears may be awarded the Contract.

If forwarded by mail, the sealed envelope containing the Proposal, endorsed as directed above, must be enclosed in another envelope addressed as specified in the Notice to Bidders and sent by registered mail.

I-2.03 ADDENDA AND INTERPRETATIONS
No interpretation of the meaning of the Plans, Specifications, or other Contract Documents will be made to any Bidder orally.

Every request for such interpretation must be in writing, addressed to the Contract Administration Department, Tampa Municipal Office Building, 4th Floor North, City Hall Plaza, Tampa, Florida 33602. To be given consideration, such request must be received at least seven (7) days prior to the date fixed for the opening of the Proposals. Any and all such interpretations and any supplemental instructions will be in the form of written addenda which, if issued, will be sent by certified mail, with return receipt requested, to all prospective bidders at the respective addresses furnished, for such purposes, not later than three (3) working days prior to the date fixed for the opening of the Proposals, and if requested, a copy will be delivered to the prospective bidder's representative. Failure of any Bidder to receive any such addenda shall not relieve said Bidder from any obligation under his Proposal as submitted. All addenda so issued shall become part of the Contract Documents.

I-2.04 BID SECURITY
Each Proposal must be accompanied by a certified or cashier's check issued by a solvent bank or trust company and payable at sight to the City of Tampa, in compliance with Section 255.051 Florida Statutes, or a Bid Bond upon the form provided herein, in an amount of not less than five percent of the sum of the computed total amount of the Bidder's Proposal as a guarantee that if the Proposal is accepted, the Bidder will execute and fill in the proposed Contract and Public Construction Bond within twenty (20) days after notice of award of the Contract. Certified checks shall have all necessary documentary revenue stamps attached if required by law. Surety on Bid Bonds shall be a duly authorized surety company authorized to do business in the State of Florida, and all such Bonds shall be issued or countersigned by a local resident producing agent, and satisfactory evidence of the authority of the person or persons executing such Bond to Execute the same shall be submitted with the Bond. Bid Bonds shall be issued by a surety company acceptable to the City.

Within ten (10) days after the opening of Proposals, the bid security of all but the three lowest Bidders will be returned. The bid security of the remaining two Bidders whose Proposals are not accepted will be

returned within ten (10) days after the execution of the Contract, or, if no such Contract has been executed, within ninety (90) days after the date of opening Proposals. The bid security of the Bidder whose Proposal is accepted will be returned only after he has duly executed the Contract and furnished the required Public Construction Bond and insurance.

Should it be necessary for the City to retain the bid security and said bid security is in the form of checks, the checks of these Bidders will be returned if replaced by Bid Bonds in an amount equal to the amount of the checks of such Bidders in such form and issued by a surety company acceptable to the City.

A Bidder may withdraw his Proposal before the time fixed for the opening of Proposals, without prejudice to himself, by communicating his purpose, in writing, to the Mayor and City Council, and when his communication is received, the Proposal will be handed to him or his authorized agent unopened. No Bidder may withdraw his Proposal within ninety (90) days after the day of opening Proposals.

The Bidder whose Proposal is accepted shall enter into a written contract, upon the Agreement form included herein, for the performance of the work and furnish the required Public Construction Bond within twenty (20) days after written notice by the City of Award of Contract has been served on such Bidder personally or after receipt of the written notice by registered mail to such Bidder at the address given in his Proposal.

If the Bidder to whom a Contract is awarded refuses or neglects to execute it or fails to furnish the required Public Construction Bond within twenty (20) days after receipt by him of the Notice of Award of Contract, the amount of his bid security shall be forfeited and shall be retained by the City as liquidated damages, and not as a penalty, it being now agreed that said sum is a fair estimate of the amount of damages that the City will sustain in case said Bidder fails to enter into a Contract and furnish the required Public Construction Bond. If a Bid Bond was furnished, the full amount of the Bond shall become due and payable as liquidated damages caused by such failure. The full amount of the bid security shall be forfeited as liquidated damages without consideration of the fact that an award may be less than the full amount of the Bidder's Proposal, excepting that the award shall be within the conditions of said Proposal relating to the basis of consideration for an award. No plea of mistake in the bid or misunderstanding of the conditions of forfeiture shall be available to the Bidder for the recovery of his deposit or as a defense to any action based upon the neglect or refusal to execute a contract.

I-2.05 LAWS AND REGULATIONS
The Bidder who is awarded the Contract must comply with all laws of the State of Florida, and all applicable Ordinances of the City of Tampa respecting labor and compensation and with all other statutes, ordinances, rules and regulations applicable and having the force of law.

I-2.06 PUBLIC CONSTRUCTION BOND
The Bidder who is awarded the Contract will be required to furnish a Public Construction Bond upon the form provided herein, equal to 100 percent of the Contract price, such Bond to be executed by a surety company acceptable to the City of Tampa and licensed to underwrite contracts in the State of Florida. Surety companies shall have a rating of not less than: B+ Class VI as evaluated in the most recently circulated BEST'S KEY RATING GUIDE PROPERTY-LIABILITY.

I-2.07 SIGNATURE AND QUALIFICATIONS OF BIDDERS
Proposals must be signed in ink by the Bidder with signature in full. When a firm is a Bidder, the Proposal shall be signed in the name of the firm by one or more of the partners. When a corporation is a Bidder the officer signing shall set out the corporate name in full beneath which he shall sign his name and give the title of his office. The Proposal shall also bear the seal of the corporation attested by its secretary. Anyone signing the Proposal as agent must file with it legal evidence of his authority to do so.

Bidders who are nonresident corporations shall furnish to the City a duly certified copy of their permit to transact business in the State of Florida, signed by the Secretary of State, within ten days of the notice to do so. Such notice will be given to Bidders who are nonresident corporations, to whom it appears an award will be made, and the copy of the permit must be filed with the City before the award will be made. Failure to promptly submit this evidence of qualification to do business in the State of Florida may be basis for rejection of the Proposal.

I-2.08 REJECTION OF PROPOSALS
The City reserves the right to reject any Proposal if investigation of the Bidder fails to satisfy the City that such Bidder is properly qualified to carry out the obligations and to complete the work contemplated therein. Any or all Proposals will be rejected if there is reason to believe that collusion exists among Bidders. Proposals will be considered irregular and may be rejected if they show serious omissions, alterations in form, additions not called for, conditions or unauthorized alternates, or irregularities of any kind. The City reserves the right to reject any or all Proposals and to waive such technical errors as may be deemed best for the interests of the City.

I-2.09 QUANTITIES ESTIMATED ONLY
The estimate of quantities of the various items of work and materials, if set forth in the Proposal Form, is approximate only and is given solely to be used as a uniform basis for the comparison of Proposals. The quantities actually required to complete the Contract work may be less or more than so estimated, and if awarded a Contract for the work specified, the Contractor agrees that he will not make any claim for damages or for loss of profits because of a difference between the quantities of the various classes of work assumed for comparison of Proposals and quantities of work actually performed. The City further reserves the right to vary the quantities in any amount.

I-2.10 COMPARISON OF PROPOSALS
Except jobs bid on a "One Lump Sum" basis, proposals will be compared on the basis of a total computed price arrived at by taking the sum of the estimated quantity of each time and the corresponding unit price of each item, and including any lump sum prices on individual items.

The computed total prices for individual Contract Items and the total computed price for the entire Contract, as entered by the Bidder in the Proposal Form, are for convenience only and are subject to correction in the tabulation and computation of the Proposals.

I-2.11 BASIS OF AWARD
The Contract will be awarded, if at all, to the lowest responsible Bidder or Bidders, as determined by the City and by the terms and conditions of the Contract Documents. Unless all bids are rejected, the award will be made within ninety (90) days after the opening of Proposals. The successful Bidder will be required to possess, or obtain, a valid City Occupational License.

I-2.12 INSURANCE REQUIRED
The successful Bidder and his subcontractors will be required to procure and pay for insurance covering the work in accordance with the provisions of Article 6.02 of the Agreement as indicated on special instructions pages beginning with INS-1.

I-2.13 NO ASSIGNMENT OF BID
No Bidder shall assign his bid or any rights thereunder.

I-2.14 NONDISCRIMINATION IN EMPLOYMENT
Contracts for work under this Proposal will obligate the contractors and subcontractors not to discriminate in employment practices.

Bidders must, if requested, submit with their initial bid a signed statement as to whether they have previously performed work subject to the President's Executive Order Nos. 11246 and 11375.
Bidders must, if requested, submit a compliance report concerning their employment practices and policies in order to maintain their eligibility to receive the award of the Contract.

Successful Bidders must, if requested, submit a list of all subcontractors who will perform work on the project and written,

signed statement from authorized agents of the labor pools with which they will or may deal for employees on the work together with supporting information to the effect that said labor pools practices and policies are in conformity with Executive Order No. 11246 and that said labor pools will affirmatively cooperate in or offer no hindrance to the recruitment, employment and equal treatment of employees seeking employment and performing work under the Contract, or a certification as to what efforts have been made to secure such statements when such agents or labor pools have failed or refused to furnish them prior to the award of the Contract.

I-2.15 LABOR STANDARDS
The Bidder's attention is directed to the Contract Provisions of the Labor Standards for federally assisted projects which may be attached to and made a part of the Agreement.

I-2.16 NOTICE TO LABOR UNIONS
If applicable, the successful Bidder will be required to provide Labor Unions and other organizations of workers a completed copy of the form entitled "Notice to Labor Unions or Other Organizations of Workers", and such form may be made a part of the Agreement.

I-2.17 NOTICE TO PROSPECTIVE FEDERALLY-ASSISTED CONSTRUCTION CONTRACTORS
A Certification of Nonsegregated Facilities, as required by the May 9, 1967, Order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted to said Secretary prior to the award of a federally-assisted construction and Contract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity Clause. The form of certification may be bound herein following the form of Bid Bond.

Contractors receiving federally-assisted construction Contract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide for the forwarding of the following notice to prospective subcontractor for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause:

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT
FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

"A Certification of Nonsegregated Facilities, as required by the May 9, 1967, Order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity Clause."

"Contractors receiving subcontract awards exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause will be required to provide from the forwarding of this notice to prospective subcontractors for supplies and construction contracts where the subcontracts exceed $10,000 and are not exempt from the provisions of the Equal Opportunity Clause."

The United States requires a pre-award conference if a proposed construction contract exceeds one million dollars to determine if the the prospective contractor is in compliance with the Equal Employment Opportunity requirements of Executive Order 11246 of September 24, 1965. In such instances, a meeting may be scheduled at which the prospective contractor must specify what affirmative action he has taken or proposed to take to assure equal employment opportunity which must be approved by the United States before award of the contract will be authorized.

Bidders must be prepared to submit an Equal Employment Opportunity (EEO) plan at a pre-award conference. The plan must include bidding opportunities offered by the Bidder to minority subcontractors.

On October 13, 1971, President Nixon issued Executive Order 11246 emphasizing the government's commitment to the promotion of minority business enterprise. Accordingly, the United States is firmly committed to the utilization of available resources to support this important program. U.S. agencies are most interested in realizing minority participation on the subject. Achieving equal employment opportunity compliance is required through Executive Order 11246. WE cannot emphasize too strongly that minority subcontractors be extended subcontractors bidding opportunities as but one step in your affirmative action policy.

Due to the importance of this contract, U.S. Agencies may conduct an EEO Conference prior to the award of the Contract. It is suggested that the responsive Bidder confirm the minority subcontractors he contacted for bids or quotations in his EEO plan submitted at the conference.

I-2.18 EEO AFFIRMATIVE ACTION REQUIREMENTS
By the submission of a Proposal, each Bidder acknowledges that he understands and will agree to be bound by the equal opportunity requirements of Federal regulations which shall be applicable throughout the performance of work under any contract awarded pursuant to solicitation. Each Bidder agrees that if awarded a contract, he will similarly bind contractually each subcontractor. In policies, each Bidder further understands and agrees that if awarded a contract, he must engage in Affirmative Action directed to promoting and ensuring equal employment opportunity in the work force used under the contract (and he must require contractually the same effort of all subcontractors whose subcontracts exceed $100,000). The Bidder understands and agrees that "Affirmative Action" as used herein shall constitute a good faith effort to achieve and maintain minority employment in each trade in the on-site work force used on the project. * * * * * * * END of SECTION * * * * * * *

CITY OF TAMPA INSURANCE REQUIREMENTS

During the life of the award/contract the Awardee/Contractor shall provide, pay for, and maintain insurance with companies authorized to do business in Florida, with an A.M. Best rating of B+ (or better) Class VII (or higher), or otherwise be acceptable to the City if not rated by A.M. Best. All insurance shall be from responsible companies duly authorized to do business in the State of Florida.

All commercial general liability insurance policies (and Excess or Umbrella Liability Insurance policies, if applicable) shall provide that the City is an additional insured as to the operations of the Awardee/Contractor under the award/contract including the additional insured endorsement, the subrogation wavier endorsement, and the Severability of Interest Provision. In lieu of the additional named insured requirement, if the Awardee/Contractor's company has a declared existing policy which precludes it from including additional insureds, the City may permit the Contractor to purchase an Owners and Contractors Protective Liability policy. Such policy shall be written in the name of the City at the same limit as is required for General Liability coverage. The policy shall be evidenced on an insurance binder which must be effective from the date of issue until such time as a policy is in existence and shall be submitted to the City in the manner described below as applicable to certificates of insurance.

The insurance coverages and limits required must be evidenced by a properly executed Acord 25 Certificate of Insurance form or its equivalent. Each Certificate must be personally manually signed by the Authorized Representative of the insurance company shown in the Certificate with proof that he/she is an authorized representative thereof. Thirty days' written notice must be given to the City of any cancellation, intent not to renew, or reduction in the policy coverages, except in the application of the aggregate liability limits provisions. Should any aggregate limit of liability coverage be reduced, it shall be immediately increased back to the limit required by the contract. The insurance coverages required herein are to be primary to any insurance carried by the City or any self-insurance program thereof.

The following coverages are required:

A. Commercial General Liability Insurance shall be provided on the most current Insurance Services Office (ISO) form or its equivalent. This coverage must be provided to cover liability arising from premises and operations, independent contractors, products and completed operations, personal and advertising injury, contractual liability, and XCU exposures (if applicable). Completed operations liability coverage shall be maintained for a minimum of one-year following completion of work. The amount of Commercial General Liability insurance shall not be less than the amount specified.

(a) $1,000,000 per occurrence and a $2,000,000 general aggregate for projects valued at $2,000,000 or less. General aggregate limit for projects over that price shall equal or exceed the price of the project. An Excess or Umbrella Liability insurance policy can be provided to meet the required limit. Risk Management may be contacted for additional information regarding projects of this nature.

B. Automobile Liability Insurance shall be maintained in accordance with the laws of the State of Florida, as to the ownership, maintenance, and use of all owned, non-owned, leased, or hired vehicles. The amount of Automobile Liability Insurance shall not be less than the amount specified.

(a) $500,000 combined single limit each occurrence bodily injury & property damage- for projects valued at $100,000 and under

(b) $1,000,000 combined single limit each occurrence bodily injury & property damage – for projects valued over $100,000

C. Worker's Compensation and Employer's Liability Insurance shall be provided for all employees engaged in the work under the contract, in accordance with the Florida Statutory Requirements. The amount of the Employer's Liability Insurance shall not be less than:

(a) $500,000 bodily injury by accident and each accident, bodily injury by disease policy limit, and bodily injury by disease each employee – for projects valued at $100,00 and under
(b) $1,000,000 bodily injury by accident and each accident, bodily injury by disease policy limit, and bodily injury by disease each –for projects valued over $100,000

D. Excess Liability Insurance or Umbrella Liability Insurance may compensate for a deficiency in general liability, automobile, or worker's compensation insurance coverage limits. If the Excess or Umbrella policy is being provided as proof of coverage, it must name the City of Tampa as an additional insured **(IF APPLICABLE).**

E. Builder's Risk Insurance, specialized policy designed to cover the property loss exposures that are associated with construction of buildings. The amount of coverage should not be less than the amount of the project. **(IF APPLICABLE).**

F. Installation Floater- a builder's risk type policy that covers specific type of property during its installation, is coverage required for highly valued equipment or materials such as compressors, generators, or other machinery that are not covered by the builder's risk policy **(IF APPLICABLE).**

G. Longshoreman's & Harbor Worker's Compensation Act/Jones Act coverage shall be maintained for work being conducted upon navigable water of the United States. The limit required shall be the same limit as the worker's compensation/employer's liability insurance limit **(IF APPLICABLE).**

H. Professional Liability shall be maintained against claims of negligence, errors, mistakes, or omissions in the performance of the services to be performed and furnished by the Awardee/Contractor or any of its subcontractors when it acts as a DESIGN PROFESSIONAL. The amount of coverage shall be no less than amount specified **(IF APPLICABLE).**

(a) $1,000,000 per incident and general aggregate. Note all claims made policies must provide the date of retroactive coverage.

The City may waive any or all of the above referenced insurance requirements based on the specific nature of goods or services to be provided under the award/contract.

ADDITIONAL INSURED - The City must be included as an additional insured by on the general and (Excess or Umbrella liability policies) if applicable. Alternatively, the Contractor may purchase a separate owners protective liability policy in the name of the City in the specified amount as indicated in the insurance requirements.

CLAIMS MADE POLICIES - If any liability insurance is issued on a claims made form, Contractor agrees to maintain uninterrupted coverage for a minimum of one year following completion and acceptance of the work either through purchase of an extended reporting provision, or through purchase of successive renewals with a retroactive date not later than the beginning of performance of work for the City. The retroactive date must be provided for all claims made policies.

CANCELLATION/NON-RENEWAL - Thirty (30) days written notice must be given to the City of any cancellation, intent to non-renew or material reduction in coverages (except aggregate liability limits). However, ten (10) days notice may be given for non-payment of premium. Notice shall be sent to the City of Tampa Department of Public Works, 306 E. Jackson Street, Tampa, FL 33602.

NUMBER OF POLICIES - General and other liability insurance may be arranged under single policies for the full amounts required or by a combination of underlying policies with the balance provided by an excess or umbrella liability insurance policy.

WAIVER OF SUBROGATION - Contractor waives all rights against City, its agents, officers, directors and employees for recovery of damages to the extent such damage is covered under the automobile or excess liability policies.

SUBCONTRACTORS - It is the Contractor's responsibility to require all subcontractors to maintain adequate insurance coverage.

PRIMARY POLICIES - The Contractor's insurance is primary to the City's insurance or any self insurance program thereof.

RATING - All insurers shall be authorized to do business in Florida, and shall have an A.M. Best rating of B+ (or better), Class VII (or higher), or otherwise be acceptable to the City if not rated by A.M. Best.

DEDUCTIBLES - The Contractor is responsible for all deductibles. In the event of loss which would have been covered but for the presence of a deductible, the City may withhold from payment to Contractor an amount equal to the deductible to cover such loss should full recovery not be obtained under the insurance policy.

INSURANCE ADJUSTMENTS - These insurance requirements may be increased, reduced, or waived at the City's sole option with an appropriate adjustment to the Contract price.

Document updated on 12/22/2009 by RLD (Risk Management)

City of Tampa MBD Office

SLBE Goal Setting Firms

as of 10/6/2011

ELECTRICAL SERVICES

Apollo Construction & Engineering Services, Inc. **Federal Number** 59-2811166

P.O. Box 5848
Sun City Center, FL 33571-5848

Phone (813) 645-4926
Fax (813) 645-3351
E-mail catjohnson@apollo-construction.com

Minority Small Business
Contact Thomas Kamprath

All-In-One Electric **Federal Number** 04-3689273

1201 W Waters Ave.
Tampa, FL 33604

Phone (813) 849-6331
Fax (813) 514-0473
E-mail allinoneelectric@msn.com

Minority Small Business
Contact Rodney Jones

Romero & Gray Electric, Inc. **Federal Number** 57-1164017

6001 Johns Rd.
Tampa, FL 33634

Phone (813) 881-1876
Fax (813) 249-4840
E-mail mgray@rg-electric.com

Minority Small Business
Contact Alfredo Romero

Minbe Co., Inc. **Federal Number** 20-1138165

3601 N. Nebraska Ave.
Tampa, FL 33603

Phone (813) 223-6582
Fax (813) 224-0388
E-mail cmenendez@borrellelectric.com

Minority Small Business
Contact Carlos Menendez

JDP Electric, Inc. **Federal Number** 59-3511620

6600 N. Florida Avenue
Tampa, FL 33604

Phone (813) 234-4004
Fax (813) 236-0394
E-mail jdpinc@tampabay.rr.com

Minority Small Business
Contact Jeffrey Priede

Mandy Electric, Inc. **Federal Number** 59-2914874

9353 E. Fowler Ave.
Thonotosassa, FL 33592

Phone (813) 264-9234
Fax (813) 333-9701
E-mail lhernandez@mandyselectric.com

Minority Small Business
Contact Armando Hernandez

Ralph A. Philbrook, III LLC **Federal Number** 61-1460231

3316 Bainbridge Dr.
Holiday, FL 34691

Phone (727) 847-3766
Fax (727) 845-3567
E-mail philbrook3llc@aol.com

Minority Small Business
Contact Ralph Philbrook III

City of Tampa MBD Office

SLBE Goal Setting Firms

as of 10/6/2011

ELECTRICAL SERVICES

B & E Signal and Lighting, Inc. **Federal Number** 20-2880417

6447 33rd St. E.
Sarasota, FL 34243

Phone (941) 758-3594
Fax (941) 758-3805
E-mail billy@beutility.com

Minority Small Business
Contact Billy Masila

Crevello Electric, Inc. **Federal Number** 59-3559003

3305 N. Stanley Rd.
Plant City, FL 33565

Phone (813) 986-6106
Fax (813) 986-9633
E-mail crevelloelectric@gmail.com

Minority Small Business
Contact Bill Crevello

Electrical Handyman Services **Federal Number** 27-2406369

7046-B West Hillsborough Ave
Tampa, FL 33634

Phone (813) 801-8185
Fax (813) 884-5060
E-mail ehs915@aol.com

Minority Small Business
Contact Jose Cruz

IRRIGATION SYSTEMS, LABOR AND MATERIALS TO INSTALL

Ed's Lawn & Landscaping, Inc. **Federal Number** 59-3239828

P.O. Box 130744
Tampa, FL 33681

Phone (813) 254-8499
Fax (813) 250-3779
E-mail edslawn@verizon.net

Minority Small Business
Contact Susan Breit

Aqua Pro Irrigation Services **Federal Number** 59-3387591

13529 Prestige Place Suite 112
Tampa, FL 33635

Phone (813) 814-4437
Fax (813) 814-9710
E-mail ken@aquaproirrigation.com

Minority Small Business
Contact Martha Wagenbrenner

Brandon Irrigation & Supply **Federal Number** 59-2834857

10306Woodberry Rd.
Tampa, FL 33619

Phone (813) 684-2737
Fax (813) 689-3112
E-mail brandonirrigation@yahoo.com

Minority Small Business
Contact James Kerr

City of Tampa MBD Office

SLBE Goal Setting Firms

as of 10/6/2011

LANDSCAPING (TREES, LAWN, NEW CONSTRUCTION)

Morelli Landscaping, Inc **Federal Number** 59-1877993

4855 162nd Ave North
Clearwater, FL 33762

Phone (727) 535-6263 **Minority** Small Business
Fax (727) 536-6855 **Contact** Joe Morelli
E-mail vjmorelli@tampabay.rr.com

Plumline Contracting Services **Federal Number** 11-3652132

P.O. Box 1160
Riverview, FL 33568

Phone (813) 531-5560 **Minority** Small Business
Fax (813) 412-4096 **Contact** John Huggins
E-mail plumlinecontractservice@gmail.com

Infante's Services, Inc. **Federal Number** 59-3648843

18620 Gunn Hwy.
Odessa, FL 33556

Phone (813) 926-2271 **Minority** Small Business
Fax (813) 926-1431 **Contact** Renee Infante
E-mail charlotte@infanteservices.com

Ed's Lawn & Landscaping, Inc. **Federal Number** 59-3239828

P.O. Box 130744
Tampa, FL 33681

Phone (813) 254-8499 **Minority** Small Business
Fax (813) 250-3779 **Contact** Susan Breit
E-mail edslawn@verizon.net

Professional Property Services **Federal Number** 59-1341451

10105 11th Street North
Tampa, FL 33612

Phone (813) 972-4057 **Minority** Small Business
Fax (813) 971-0882 **Contact** Hyacinth Robinson
E-mail paulrobinson22@msn.com

Baron's Landscaping Service **Federal Number** 65-0837654

P.O. Box 4047
Tampa, FL 33677

Phone (813) 404-1509 **Minority** Small Business
Fax (813) 476-6255 **Contact** Randy Conte
E-mail baronslawncare@aol.com

City of Tampa MBD Office

SLBE Goal Setting Firms

as of 10/6/2011

LANDSCAPING (TREES, LAWN, NEW CONSTRUCTION)

NPC Mowing & Landscaping **Federal Number** 03-0555858

P.O. Box 292873 6441 Eureka Springs Road
Tampa, FL 33687-2873

Phone (813) 967-4386 **Minority** Small Business
Fax (352) 668-3295 **Contact** John Woodhouse
E-mail Jwoodho793@aol.com

AVA Landscape Services **Federal Number** 11-3710495

P.O. Box 292037
Tampa, FL 33687-2037

Phone (813) 758-0396 **Minority** Small Business
Fax (813) 388-6583 **Contact** Javier Gonzalez
E-mail avalandscaping@tampabay.rr.com

Fresh Start Development, Inc. **Federal Number** 20-3857845

P.O. Box 310592
Tampa, FL 33680

Phone (813) 758-5345 **Minority** Small Business
Fax (813) 333-5949 **Contact** Katina McClinton
E-mail freshstartdevelop@yahoo.com

Cardinal Landscaping Services of Tampa, Inc. **Federal Number** 59-3394554

817 E. Okaloosa Ave.
Tampa, FL 33604

Phone (813) 915-9696 **Minority** Small Business
Fax (813) 915-9695 **Contact** Mark Mantei
E-mail Mike@cardinallandscape.com

Nelson's Tree Farm and Nursery, Inc. **Federal Number** 59-3404710

19139 Geraci Rd.
Lutz, FL 33549

Phone (813) 917-6608 **Minority** Small Business
Fax (813) 350-9139 **Contact** Kimberly Martinez
E-mail kimberly.martinez33@gmail.com

Williams Landscape Management Co., Inc. **Federal Number** 54-3516370

PO Box 311444 5711 N. 50th St.
Tampa, FL 33610

Phone (813) 628-8048 **Minority** Small Business
Fax (813) 628-8048 **Contact** Tony Williams
E-mail tonywilliams@wlmslandscape.com

City of Tampa MBD Office

SLBE Goal Setting Firms

as of 10/6/2011

LANDSCAPING (TREES, LAWN, NEW CONSTRUCTION)

On-Point Group, Inc. **Federal Number** 38-3788119

PO Box 291314
Tampa, FL 33687

Phone (813) 270-6887
Fax (813) 374-0993
Minority Small Business
Contact Daphne Jones
E-mail d.jones@on-pointgroupinc.com

EPI, Inc. III **Federal Number** 26-2517542

P.O. Box 193
Lutz, FL 33648-0193

Phone (813) 516-9950
Fax (813) 902-7221
Minority Small Business
Contact Hulsey Ebanks, Jr.
E-mail info@jungle-scapes.com

Logan Moore Corporation **Federal Number** 20-8793036

501 Oakbriar Place
Brandon, FL 33510

Phone (813) 810-8614
Fax (267) 368-1716
Minority Small Business
Contact David Curtis
E-mail jhaines@mygreenserve.com

SLBE Contract Goal

Goal
9.5%

Instructions Regarding Use of the SLBE Goal Setting List

Bidders must solicit a subcontracting bid from ALL of the firms listed on the SLBEs list provided on the City's web site, and provide documentation of emails, faxes, phone calls, letters, or other communication with the firms a first step in demonstrating Good-Faith Efforts to achieve the goal set for SLBE participation on this contract.

The list is formatted to facilitate e-mailing of a solicitation to the listed firms by copying and pasting the email addresses.

The SLBE participation Goal is based upon the availability of the certified firms indicated on the attached list. The Goal and Requirements of the City's Equal Business Opportunity Program are stated in the Bid/Contract Document, Specifications.

SOLICITATION FOR SUBCONTRACTOR QUOTES

From:
OUR COMPANY NAME:
TELEPHONE NUMBER:
ADDRESS:
FAX NUMBER:
E-MAIL ADDRESS:

To Subcontractor:

Our firm is in the process of preparing a bid for a **City of Tampa Contract**. Please accept this notice as our request for quotes for the scope of work identified below. Please respond to this request by filling in the information below and returning via e-mail or fax to the address or number provided. Please contact us if you need any assistance in obtaining bonding, lines of credit, insurance, assistance in obtaining necessary equipment, supplies, materials, participation in a City-sponsored mentor-protégé program, or if you have any questions.

Plans and Specs for this project are posted at:
http://www.tampagov.net/dept_contract_administration/programs_and_services/construction_project_bidding/

CONTRACT NO.:
CONTRACT NAME:
CITY'S BID OPENING DATE:
DEADLINE FOR YOUR SUBCONTRACTOR BID OR RESPONSE:
SPECIFIC SCOPE OF WORK:

Please complete and submit with your subcontract bid or response:
YOUR FIRM'S NAME:
MAILING ADDRESS:
CITY:
STATE:
ZIP:
FAX NUMBER:
E-MAIL ADDRESS:
__Yes, my company is interested in quoting this project for the following items of work:

__No, my company will not quote this project for the following reason(s):

(Sample Suggested Sub Solicitation 3-9-9 Tampa MBDO)

Contract 11-C-00055; Tampa History Museum Courtesy Docks

PROPOSAL

To the Mayor and City Council of the City of Tampa, Florida:

Name of Bidder _____

_____
Business Phone Number and Email Address

_____
Business Name and Mailing Address

_____
Phone Number and Name of Contact Regarding Permits

_____
Contractor/Qualifiers Name and Federal Identification Number

Date of Proposal _____

(If Bidder is a firm, fill in the following blanks):

Names and Residential Addresses of Partners

_____

_____

(If Bidder is a corporation, fill in the following blanks):

Organized under the laws of the State of _____

Names and Address of President

_____

_____

Name and Address of Vice President

_____

_____

Name and Address of Secretary

_____

_____

Names and Address of Treasurer

_____

_____

The above-named Bidder affirms and declares:

(1) That the Bidder is of lawful age and that no other person, firm or corporation has any interest in this Proposal or in the Contract proposed to be entered into.

(2) That this Proposal is made without any understanding, agreement or connection with any other person, firm, or corporation making Proposal for the same purposes, and is in all respects fair and without collusion or fraud.

(3) That the Bidder is not in arrears to the City of Tampa, upon debt or contract, and is not a defaulter, as surety or otherwise, upon any obligation to the City of Tampa.

(4) That no officer or employee or person whose salary is payable in whole or in part from the City Treasury is, shall be or become interested, directly or indirectly, as a contracting party, partner, stockholder, surety or otherwise, in this Proposal, or in the performance of the Contract, or in the supplies, materials, or equipment and work or labor to which it relates, or in any portion of the profits thereof.

(5) That the Bidder has carefully examined the site of the work and that, from his own investigations, he has satisfied himself as to the nature and location of the work, the character, quality, and quantity of materials and the kinds and extent of equipment and other facilities needed for the performance of the work, the general and local conditions and all difficulties to be encountered, and all other items which may, in any way, affect the work or its performance.

(6) That the Bidder

_____ Has; Treasury Number _____

_____ Has not
(Check applicable box)

previously performed work under the President's Executive Order Nos. 11246 and 11375.

(7) That the undersigned, as Bidder, also declares that he has carefully examined and fully understands all the component parts of the Contract Documents and agrees that he will execute the Contract and finish the required Performance Bond and will completely perform the work in strict accordance with the terms of the Contract and the Contract Documents therein referred to for the following prices, to wit:

Item No.	Description	Unit	Approx. Quantity	Unit Price in Words		Unit Price		Total Computed Price
101-1	Mobilization	LS	1		$		$	
400-4-4a	Neoprene Pad	EA	8		$		$	
590-70	Irrigation	LS	1		$		$	
999-2	Landscaping	LS	1		$		$	
SP-2.14	Project Videotaping	LS	1		$		$	
SP-8.02	Signage	LS	1		$		$	
SP-8.10-1	Floating Turbidity Barrier	LF	350		$		$	
SP-8.10-2	Erosion Sediment Barrier (Silt Fence)	LF	500		$		$	
SP-11.16	Contingency	LS	1	Twenty Thousand Dollars and No Cents	$	20,000.00	$	20,000.00
SP-14.01-1	Excavation	CY	35		$		$	
SP-14.01-2	Remove/Install pavers and concrete slab	LS	1		$		$	
SP-15.02-1	Concrete Slab on Grade	CY	18		$		$	
SP-15.02-2	Concrete Deck & Pile Cap for Trestle	CY	13		$		$	
SP-15.02-3	Concrete Deck and Pile Cap for Gangway Landing Platform	CY	6		$		$	
SP-15.03	Crushed Rock Fill	CY	25		$		$	
SP-16.01	20" Steel Pipe Pile - 1/4" thickness	Ton	6		$		$	
SP-16.02	Concrete Pile	VLF	227		$		$	
SP-16.03	Epoxy Polyamide Coating	SF	525		$		$	
SP-17-1	Hand Rail	LF	185		$		$	
SP-18-1	Concrete Floating Dock (Including Piles and connections)	SF	944		$		$	

Item No.	Description	Unit	Approx. Quantity	Unit Price in Words		Unit Price		Total Computed Price
SP-18-2	ADA Alum Gangways (including railing, hinge & toe plate)	LF	75		$		$	
SP-18-3	Pay Box	EA	1		$		$	
SP-19.01	Bollards (Lighted) F&I	EA	5		$		$	
SP-19.02	Navigation Lights	EA	1		$		$	
SP-25.03-1	Sectional Ground Rod (3/4"x 20')	EA	2		$		$	
SP-25.03-2	Exothermic Weld	EA	1		$		$	
SP-25.03-3	Ground Clamp	EA	1		$		$	
SP-25.03-4	Inspection Box	EA	1		$		$	
SP-25.03-5	#2/0 Bare Copper Ground Conductor	LF	25		$		$	
SP-25.03-6	GFI Receptacle w/ Box & Cover	EA	1		$		$	
SP-25.03-7	Receptacle Circuit Connection	LS	1		$		$	
SP-25.03-8	3/4" PVC Coated GRS Conduit	LF	200		$		$	
SP-25.03-9	#8 THWN Copper	LF	700		$		$	
				TOTAL	$		$	

Computed Total Price In Words:

_____

_____ dollars and _____ cents.

Computed Total Price in Figures: $_____

The bidder acknowledges that the following addenda have been received and that the changes covered by the addendum(s) have been taken into account in this proposal: #1 ___ #2 ___ #3 ___ #4___ #5___.

The bidder acknowledges the requirements of the City of Tampa's Equal Business Opportunity Program.

Bidder acknowledges that included in the various items of the proposal and the Total Bid Price are costs for complying with the Florida Trench Safety Act (90096), (Laws of Fla.) effective October 1, 1990. The bidder further identifies the costs to be summarized below:

	Trench Safety Measure (Description)	Unit of Measure (LF, SY)	Unit Quantity	Unit Cost	Extended Cost
A.	_____	_____	_____	_____	_____
B.	_____	_____	_____	_____	_____
C.	_____	_____	_____	_____	_____
D.	_____	_____	_____	_____	_____

Total Cost $_____

Signed _____

Failure to complete the above may result in the bid being declared non-responsive.

Accompanying this Proposal is a certified check, cashier's check or Bid Bond (form included herein must be used) on the for at least five (5) percent of the total amount of the Proposal which check shall become the property of the

_____ of _____
(Name of Bank or Surety) (City & State)

City of Tampa, or which bond shall become forthwith due and payable to the City of Tampa, if this Proposal shall be accepted by the City of Tampa and the undersigned shall fail to execute a contract with and to furnish the required Performance Bond and Payment Bond to the City of Tampa within twenty (20) days after the date of receipt of written Notice of Award by the City of Tampa to the undersigned so to do.

Dated _____, 2011

_____
(Name of Bidder)

_____
(Address of Bidder)

_____
(Signature)

_____
(Title)

Where Bidder is a Corporation:

Attest:

_____
Secretary

AFFIX
CORPORATE
SEAL

(ACKNOWLEDGMENT OF PRINCIPAL)

STATE OF)
) SS:
COUNTY OF)

For a Corporation:

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this ___ of _____, 2011 by _____ of _____, a _____ corporation, on behalf of the corporation. He/she is ___ personally known or has ___ produced _____ as identification.

_____
Notary

My Commission Expires:

_____

For an Individual:

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this ___ of _____, 2011 by _____ who is ___ personally known to me or has ___ produced _____ as identification.

_____
Notary

My Commission Expires:

_____

For a Firm:

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me this ___ of _____, 2011 by _____ who signed on behalf of the said firm. He/she is ___ personally known or has ___ produced _____ as identification.

_____
Notary

My Commission Expires:

_____

_____

Good Faith Effort Compliance Plan for Small Local Business Subcontracting

City of Tampa - Equal Business Opportunity Program

Contract _____ **Bid Date** _____

Bidder _____

Signature _____ **Date** _____

Name _____ **Title** _____

The following Compliance Plan is a true report of Good Faith Efforts made to accomplish subcontracting goals for Small Local Business Enterprises, SLBEs, on the referenced contract:

□ **The goal for SLBE participation has been met or exceeded. See the DMI form reporting subcontractors to be utilized.**
(Check Box, if appropriate; the remainder of the Compliance Plan need not be reported.)

□ **The goal for SLBE participation has not been met. The following is a recap of Good Faith Efforts made:**
(Check applicable boxes below. Enclose additional documents, and/or add remarks below as needed.)

(1) Soliciting through reasonable and available means the interest of SLBEs that have the capability to perform the work of the contract. The Bidder or Contractor must solicit this interest within sufficient time to allow the SLBEs to respond. The Bidder or Contractor must take appropriate steps to follow up initial solicitations with interested SLBEs. □ See DMI report forms for subcontractors solicited. □ See enclosed supplemental data on solicitation efforts. □ Remarks:

(2) Providing interested SLBEs with adequate information about the plans, specifications, and requirements of the contract, including addenda, in a timely manner to assist them in responding to the solicitation. □ See enclosed sample solicitation. □ Remarks:

(3) Negotiating in good faith with interested SLBEs that have submitted bids. Documentation of negotiation must include the names, addresses, and telephone numbers of SLBEs that were solicited; the date of each such solicitation; a description of the information provided regarding the plans and specifications for the work selected for subcontracting; and evidence as to why agreements could not be reached with SLBEs to perform the work. That there may be some additional costs involved in soliciting and using SLBEs is not a sufficient reason for a contractor's failure to meet the goals, as long as such costs are reasonable. Bidders are not required to accept higher quotes in order to meet the goal. □ DMI subcontractor-utilized forms reflect successful negotiations □ This project is of a low-bid nature and negotiations are limited to clarifications of scope and specifications. □ See enclosed document. □ Remarks:

(4) Not rejecting SLBEs as being unqualified without sound reasons based on a thorough investigation of their capabilities. The SLBEs standing within its industry, membership in specific groups, organizations, or associations and political or social affiliations are not legitimate causes for rejecting or not soliciting bids to meet the goals. □ Not applicable. □ See attached explanation for rejection of a low-bidding subcontractor's bid. □ Remarks:

(5) Making a portion of the work available to SLBE subcontractors and suppliers and to select those portions of the work or material consistent with the available SLBE subcontractors and suppliers, so as to facilitate meeting the goal. □ Sub-Contractors were allowed to bid on their own choice of work or trade without restriction to a pre-determined portion. □ See enclosed comments. □ Remarks:

(6) Making good faith efforts, despite the ability or desire of a Bidder or Contractor to perform the work of a contract with its own organization. A Bidder or Contractor who desires to self-perform the work of a contract must demonstrate good faith efforts unless the goal has been met. □ Sub-Contractors were not prohibited from submitting bids on work not usually sub-contracted. □ Remarks:

(7) Selecting portions of the work to be performed by SLBEs in order to increase the likelihood that the goals will be met. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate SLBE participation, even when the Bidder or Contractor might otherwise prefer to perform these work items with its own forces. □ Sub-Contractors were allowed to bid on their own choice of work or trade without restriction to a pre-determined portion. □ Sub-Contractors were not prohibited from submitting bids on work not usually sub-contracted. □ See enclosed comments. □ Remarks:

(8) Making efforts to assist interested SLBEs in obtaining bonding, lines of credit, or insurance as required by the city or contractor. □ See enclosed sample solicitation □ see enclosed document. □ Remarks:

(9) Making efforts to assist interested SLBEs in obtaining necessary equipment, supplies, materials, or related assistance or services, including participation in a City-sponsored mentor-protégé program. □ See enclosed sample solicitation. □ See enclosed document. □ Remarks:

(10) Effectively using the services of the City and other organizations that provide assistance in the recruitment and placement of SLBEs. □ See enclosed document. □ The following services were used:

Other Supporting Good Faith Efforts: □ See enclosed document. □ Remarks:

Compliance Plan: Guidance For Meeting Good Faith Efforts

1. All firms on the SLBE Goal Setting List must be solicited and documentation provided for email, fax, letters, phone calls, and other communication with the listed firms. The DMI Solicited and DMI-Utilized forms must be completed for all firms solicited or utilized. Other opportunities for subcontracting may be explored by consulting the City of Tampa and/or Hillsborough County certification listings of SLBE's.

2. Solicitation of SLBEs, via written or electronic notification, should provide specific information on the services needed, where plans can be reviewed and assistance offered in obtaining these, if required. Solicitations should be typically be sent a week or more before the bid date. Sample copies of the bidder's solicitations should be provided.

3. With any quotes received, a follow-up should be made whenever needed to confirm scope of work. For any SLBE low quotes rejected, an explanation should be provided detailing negotiation efforts.

4. If a low bid SLBE is rejected or deemed unqualified the contractor must provide an explanation and supporting documentation for this decision.

5. Prime should break down portions of work into economical feasible opportunities for subcontracting. The SLBE directory can be useful in identifying additional subcontracting opportunities and firms not listed in the "SLBE Goal Setting Firms List."

6. Contractor should not preclude SLBEs from bidding on any part of work, even if the Contractor can self-perform the work.

7. Contractor should avoid relying solely on subcontracting out work where availability is not sufficient to attain pre-determined goal.

8. In its solicitations, the Bidder should offer assistance to SLBEs in obtaining bonding, insurance, etc, if required of subcontractors by the City or Prime Contractor.

9. In its solicitation, the Bidder should offer assistance in obtaining equipment for a specific job to SLBEs, if needed.

10. Contractor should use the services offered by such agencies as the Minority Business Development Office of the City of Tampa, Hillsborough County and the NAACP Empowerment Center for the recruitment and placement of SLBEs.

City of Tampa – DMI -Schedule of All Sub-(Contractors/Consultants/Suppliers) Solicited

This must be signed and submitted with the Bid or Proposal to comply with the City's Equal Business Opportunity Program.

Contract No.: _____ Contract Name: _____

Contractor Name: _____ Address _____

Federal ID _____ Phone _____ Fax _____ Email _____

[ ] No Sub-Contracting Opportunities existed for this contract.

[ ] No Firms were contacted because _____

[ ] See attached documents.

NIGP Code General Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

S = SLBE Federal ID	Company Name Address Phone & Fax	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic Am. AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade or Services NIGP Code (listed above)	Contact Method L=Letter F=Fax E=Email P=Phone	Quote or Resp. Rec'd Y/N

It is hereby certified that the information provided is an accurate and true account of contacts and solicitations for sub -contracting opportunities on this contract.

Signed _____ Name/Title _____ Date: _____

Instructions for completing The Sub-(Contractors/Consultants/ Suppliers) Solicited Form (DMI-Solicited)

This form must be submitted with all bids or proposals.

All subcontractors (regardless of ownership or size) solicited and subcontractors from whom unsolicited quotations were received must be included on this form.

The instructions that directly follow are for the form heading information pertaining to the project and prime:

Contract No. - Number assigned by the City of Tampa for the bid or proposal
Contract Name - Name of the contract assigned by the City of Tampa for the bid or proposal.
Contractor Name - Name of your business.
Address - Physical address of your business.
Federal ID - Number assigned to your business for tax reporting purposes.
Phone - Telephone number to contact business.
Fax - Fax number for business.
Email – Business email address for electronic correspondence.
No Subcontracting Opportunities existed for this Contract. - Checking this box indicates that a pre-determined Subcontract Goal was not set by the City and that your business will not use subcontractors but will self-perform all work. If during the administration of the contract you use subcontractors, the "DMI-Payments" form must be submitted with your invoices. Note: Certified SLBE or WMBE firms bidding as Primes are not exempt from outreach and solicitation of subcontractors.
No Firms were contracted because - Provide brief explanation why no subcontractors were used.
See attached documents - Check this box if you have provided any additional documents relating to the form.

Note: If you use an electronic version of the form, BE SURE TO INCLUDE EVERY DATA FIELD.

The following instructions are for information of any and all subcontractors solicited:

SLBE - Enter "**S**" for firms Certified by the City of Tampa as Small Local Business Enterprises.
Federal ID - A number assigned to a business for tax reporting purposes. **This information is critical** in proper identification of the subcontractor.
Company Name, Address, Phone & Fax - Provide company information for verification of payments.
Type of Ownership - Ethnicity and Gender of the owner of the subcontracting business.
Trade, Services, or Materials - Indicate the trade, service, or material provided by the subcontractor. Under the trade, list NIGP codes (listed at top section of document).
Contract Method L=letter, F=fax, E=Email, P=Phone - Indicate with letter the method of soliciting for bid.
Q**uote or Resp. (response) Rec'd (received) Y/N -** Indicate "Y" Yes if you received a quotation or if you received a response to your solicitation. Indicate "N" No if you received no response to your solicitation from the subcontractor.

To be considered complete, the form must be completed, and then signed by a company authorized representative certifying that the information is true and accurate. This document must be completed in order to comply with the City of Tampa's Equal Business Opportunity Program.

If any additional information is required or you have any questions, you may call the Minority Business Development Office at (813) 274-5522.

City of Tampa – DMI Schedule of Sub-(Contractors/Consultants/Suppliers) to be Utilized

This must be signed and submitted with the Bid or Proposal to comply with the City's Equal Business Opportunity Program, for any Contract on which sub-contracting will be performed.

Contract No.: __________ Contract Name: ____

Contractor Name: _________________________________ Address ______________________________________

Federal ID __________________ Phone ____________ Fax ____________ Email ____________________________

[ ] See attached documents.

NIGP Code General Categories: Buildings = 909, General = 912, Heavy = 913, Trades = 914, Architects = 906, Engineers & Surveyors = 925, Supplier = 912-77

Enter "S" for firms Certified as Small Local Business Enterprises

S = SLBE / Federal ID	Company Name Address Phone & Fax	Type of Ownership (F=Female M=Male) BF BM = African Am. HF HM = Hispanic Am. AF AM = Asian Am. NF NM = Native Am. CF CM = Caucasian	Trade, Services, or Materials NIGP Code Listed above	Amount of Quote. Letter of Intent if available.	Percent of Contract %

Total Subcontract/Supplier Utilization $___________________________

Total SLBE Utilization $ ______________________________________

Percent SLBE Utilization of Total Bid/Proposal Amt. _____________________________________%

Certification: It is hereby certified that the following information is a true and accurate account of utilization for sub -contracting opportunities on this contract.

Signed _________________________________ Name/Title ______________________________ Date: __________

Instructions for completing The Sub-(Contractors/Consultants/ Suppliers) to be Utilized Form (DMI-Utilized)

This form must be submitted with all bids or proposals if subcontracting will be performed.
All subcontractors, regardless of classification, projected to be utilized must be included on this form.

The instructions that directly follow are for the form heading information pertaining to the project and prime:

Contract No - Number assigned by the City of Tampa for the bid or proposal
Contract Name - Name of the contract assigned by the City of Tampa for the bid or proposal.
Contractor Name - Name of your business.
Address - Physical address of your business.
Federal ID - Number assigned to your business for tax reporting purposes.
Phone - Telephone number to contact business.
Fax - Fax number for business.
Email – Business email address for electronic correspondence.
See attached documents - Check this box if you have provided any additional documentation.

Note: If you use an electronic version of the form, BE SURE TO INCLUDE EVERY DATA FIELD.

The following instructions are for information regarding any and all subcontractors to be utilized:

Federal ID - Number assigned to a business for tax reporting purposes. **This information is critical** in proper identification of the subcontractor.
SLBE - Enter "**S**" for firms Certified by the City as Small Local Business Enterprises.
Company Name, Address, Phone & Fax - Company information for verification of payments.
Type of Ownership - Ethnicity and Gender of the owner of the subcontracting business.
Trade, Services, or Materials (NIGP code if Known) - Indicate the trade, service, or material provided by the subcontractor. Below the trade, list NIGP codes (available at http:/www.tampagov.net/mbd).
Amount of Quote, Letters of Intent – Dollar amount to be subcontracted (Required for SLBE's.)
Percent of Contract - Indicate the percent of the total contract price the subcontract(s) represent.
Total Subcontract/Supplier Utilization – Provide total dollar amount of all subcontractors/suppliers projected to be used for the contract.
Total SLBE Utilization - Provide total dollar amount for all projected SLBE subcontractors/Suppliers used for this contract.
Percent SLBE Utilization - Total amount allocated to SLBEs divided by the total bid amount.

To be considered complete, the form must be completed, and then signed by a company authorized representative certifying that the information is true and accurate. This document must be completed in order to comply with the City of Tampa's Equal Business Opportunity Program.

If any additional information is required or you have any questions, you may call the Minority Business Development Office at (813) 274-5522.

TAMPA BID BOND
Contract 11-C-00055; Tampa History Museum Courtesy Docks

KNOW ALL MEN BY THESE PRESENTS, that we, _____

_____

(hereinafter called the Principal) and _____

(hereinafter called the Surety) a Corporation chartered and existing under the laws of the State of _____, with its principal offices in the City of _____, and authorized to do business in the State of Florida, are held and firmly bound unto the City of Tampa, a Municipal Corporation of Hillsborough County, Florida, in the full and just sum of 5% of the amount of the (Bid) (Proposal) good and lawful money of the United States of America, to be paid upon demand of the City of Tampa, Florida, to which payment will and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally and firmly these presents.

WHEREAS, the Principal is about to submit, or has submitted to the City of Tampa, Florida, a Proposal for the construction of certain facilities for the City designated Contract 11-C-00055, Tampa History Museum Courtesy Docks.

WHEREAS, the Principal desires to file this Bond in accordance with law, in lieu of a certified Bidder's check otherwise required to accompany this Proposal.

NOW, THEREFORE: The conditions of this obligation are such that if the Proposal be accepted, the Principal shall, within twenty (20) days after the date of receipt of written Notice of Award, execute a contract in accordance with the Proposal and upon the terms, conditions and price set forth therein, in the form and manner required by the City of Tampa, Florida and execute a sufficient and satisfactory Performance Bond and Payment Bond payable to the City of Tampa, Florida in an amount of one hundred percent (100%) of the total contract price, in form and with security satisfactory to said City, then this Bid Bond obligation is to be void; otherwise to be and remain in full force and virtue in law, and the Surety shall, upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above, immediately pay to the aforesaid City, upon demand, the amount thereof, in good and lawful money of the United States of America, not as a penalty, but as liquidated damages.

IN TESTIMONY THEREOF, the Principal and Surety have caused these presents to be duly signed and sealed this _____ day of _____,2011.

Principal _____

BY _____

TITLE _____

BY _____

TITLE _____

Countersigned:
(SEAL)

_____
Local Resident Producing Agent

_____
Local Resident Producing Agent's Address

_____
Name of Local Agency

_____
The addition of such phrases as "not to exceed" or like import shall render the (Bid) (Proposal)non-responsive.

AGREEMENT

For furnishing all labor, materials and equipment, together with all work incidental thereto, necessary and required for the performance of the work for the construction of Contract 11-C-00055 in accordance with your Proposal dated _____, amounting to a total of $_____ as completed in accordance with subsections I-2.09 and I-2.10 of the Instruction to Bidders.

THIS AGREEMENT, made and entered into in triplicate, this ____ day of _____, 2011, between the City of Tampa, Florida, hereinafter called the City, and hereinafter called the Contractor.

WITNESSETH that, in consideration of the mutual stipulations, agreements, and covenants herein contained, the parties hereto have agreed and hereby agree with each other, the Party of the First Part for itself, its successors and assigns, and the Party of the Second Part for itself, or himself, or themselves, and its successors and assigns, or his or their executors, administrators and assigns, as follows:

Contract 11-C-00055; Tampa History Museum Courtesy Docks, shall include, but not be limited to, construction of floating docks, ADA-compliant landside connection and gangway, bollards and electrical work with all associated work required for a complete project in accordance with the Contract Documents.

Contract Documents referred to in Article 1.01 of this Agreement also includes this volume, applicable standard drawings, the plans and any provisions referred to whether actually attached or not.

TAMPA AGREEMENT

SECTION 1
GENERAL

ARTICLE 1.01 THE CONTRACT

Except for titles, subtitles, headings, running headlines, and tables of contents (all of which are printed herein merely for convenience), the following, except for such portions thereof as may be specifically excluded, constitute the Contract:

The Notice to Bidders;
The Instructions to Bidders, including Special Instructions and General Instructions;
The Proposal;
The Bid Bond;
The Certification of Nonsegregated Facilities;
The Notice of Award;
The Agreement;
The Performance Bond;
The Notice To Proceed;
The Specifications, including the General Provisions, the Workmanship and Materials, the Specific Provisions or the Contract Items
The Plans;
All Supplementary Drawings Issued after award of the Contract;
All Addenda issued by the City prior to the receipt of proposals;
All provisions required by law to be inserted in this Contract, whether actually inserted or not.

ARTICLE 1.02 DEFINITIONS

The following words and terms, or pronouns used in their stead, shall, wherever they appear in this Contract, be construed as follows, unless different meaning is clear from the context:

(a)"City" shall mean the City of Tampa, Florida, represented by its Mayor and City Council, Party of the First Part, or such other City official as shall be duly empowered to act for the City on matters relating to this Contract.

(b)"Contractor" shall mean the Party of the Second Part hereto, whether corporation, firm or individual, or any combination thereof, and its, their, or his successors, personal representatives, executors, administrators, and assigns, and any person, firm or corporation who or which shall at any time be substituted in the place of the Party of the Second Part under this Contract.

(c)"Engineer" shall mean the Director of the Department or his duly authorized representative.

(d)"Consultant" shall mean the engineering or architectural firm or individual employed by the City to consult with and advise the City in the construction of the project.

(e)"Surety" shall mean any person, firm or corporation that has executed as Surety the Contractor's Performance Bond securing the performance of this Contact.

(f)"The Work" shall mean everything expressly or implied required to be furnished and done by the Contractor under the Contract, and shall include both Contract Work and Extra Work.

(g)"Contract Work" shall mean everything expressly or implied required to be furnished and done by the Contractor by any one or more of the Contract parts referred to in Article 1.01 hereof, except Extra Work, as hereinafter defined; it being understood that, in case of any inconsistency in or between any part or parts of this Contract, the Engineer shall determine which shall prevail.

(h)"Contract" or "Contract Documents" shall mean each of the various part of the Contract referred to in Article 1.01 hereof, both as a whole and severally.

(i)"Extra Work" shall mean work other than that required either expressly or implied by the contract in its present form.

(j)"Plans" shall mean only those drawings specifically referred to as such in these documents, or in any Addendum. Drawings issued after the execution of the Contract to explain further, or to illustrate, or to show changes in the work, will be known as "Supplementary Drawings" and shall be binding upon the Contractor with the same force as the Plans.

(k)"Specifications" shall mean all of the directions, requirements, and standards of performance applying to the work, as hereinafter detailed and designated as such, or which may be issued in an addendum.

(l)"Addendum or Addenda" shall mean the additional contract provisions issued in writing prior to the receipt of bids.

(m)"Notice" shall mean written notice. Notice shall be served upon the Contractor, either personally or by leaving the said notice at his residence or with any employee found on the work, or addressed to the Contractor at the residence or place of business given in his proposal and deposited in a postpaid wrapper in any post office box regularly maintained by the United States Post Office.

(n)"Project" shall mean the entire improvement package or related work. The "project" may consist of several different, but related, contracts.

(o)"Site" shall mean, and be limited to, the area upon or in which the Contractor's operations are carried on and such other appropriate areas as may be designed as such by the Engineer.

(p)"Subcontractor" shall mean any person, firm, or corporation, other than employees of the Contractor, who or which contracts with the Contractor to furnish, or actually furnishes labor, or labor and materials, or labor and equipment or labor, materials, and equipment at the site.

(q)Whenever in the Contract the words "directed", "required", "permitted", "ordered", "designated", "prescribed", and words of like import are used, they shall imply the direction, requirement, permission, order, designation, or prescription of the Engineer; and "approved", "acceptable", "satisfactory", "in the judgement of", and words of like import shall mean approved by, or acceptable to, or satisfactory to, or in the judgment of the Engineer.

(r)Whenever in the Contract the word "day" is used, it shall mean calendar day.

(s)"Final Acceptance" shall mean acceptance of the

work as evidenced by an official resolution of the City. Such acceptance shall be deemed to have taken place only if and when an approving resolution has been adopted by the City Council. The final acceptance shall be signed only after the City has assured itself by tests, inspection, or otherwise, that all of the provisions of the Contract have been carried out to its satisfaction.

(t)"Eastern Standard Time" shall be construed as the time being observed in the City on the day proposals are received or other documents issued or signed.

SECTION 2
POWERS OF THE CITY'S REPRESENTATIVES

ARTICLE 2.01 THE ENGINEER

It is covenanted and agreed that the Engineer, in addition to those matters elsewhere herein expressly made subject to his determination, direction, or approval, shall have the power, subject to such express provisions and limitations herein contained as are not in conflict herewith, and subject to review by the Mayor and City Council:

(a)To monitor the performance of the work.

(b)To determine the amount, kind, quality, sequence, and location of the work to be paid for hereunder and, when completed, to measure such work for payment.

(c)To determine all questions of an engineering character in relation to the work, to interpret the Plans, Specifications and Addenda.

(d)To determine how the work of this Contract shall be coordinated with the work of other contractors engaged simultaneously on this project.

(e)To make minor changes in the work as he deems necessary, provided such changes do not result in a net increase in the cost to the City or to the Contractor of the work to be done under the Contract.

(f)To amplify the Plans, add explanatory information and furnish additional Specifications and Drawings consistent with the intent of the Contract Documents.

The power of the Engineer shall not be limited to the foregoing enumeration, for it is the intent of this Contract that all of the work shall be subject to his determinations and approval, except where the determination or approval of someone other than the Engineer is expressly called for herein and except as subject to review by the Mayor and City Council. All orders of the Engineer requiring the Contractor to perform work as Contract work shall be promptly obeyed by the Contractor.

The Engineer shall not, however, have the power to issue an extra work order, and the performance of such work on the order of the Engineer without previously obtaining written confirmation thereof from the Mayor in accordance with Article 7.02 hereof may constitute a waiver of any right to extra compensation therefor. The Contractor is warned that the Engineer has no power to change the terms and provisions of this Contract, except minor changes where such change results in no net increase in the Contract Price.

ARTICLE 2.02 DIRECTOR

The Director of the Department in addition to those matters expressly made subject to his determination, direction or approval in his capacity as "Engineer", shall also have the power:

(a)To review any and all questions in relation to this Contract and its performance, except as herein otherwise specifically provided, and his determination upon such review shall be final and conclusive upon the Contractor.

(b)With the approval of the Mayor and City Council to authorize modifications or changes in the Contract so as to require: (1) the performance of extra work, or (2) the omission of Contract work whenever he deems it in the interest of the City to do so, or both.

(c)To suspend the whole or any part of the work whenever, in his judgment, such suspension is required: (1) in the interest of the City generally, or (2) to coordinate the work of the various Contractors engaged on this project, or (3) to expedite the completion of the entire project, even though the completion of this particular Contract may be thereby delayed, without compensation to the Contractor for such suspension other than extending the time for the completion of the work, as much as it may have been, in the opinion of the City, delayed by such a suspension.

(d)If, before the final acceptance of all the work contemplated herein, it shall be deemed necessary to take over, use, occupy, or operate any part of the completed or partly completed work, the Engineer shall have the right to do so and the Contractor will not, in any way, interfere with or object to the use, occupation, or operation of such work by the City after receipt of notice in writing from the Engineer that such work or part thereof will be used by the City on and after the date specified in such notice. Such taking over, use, occupancy or operation of any part of the completed or partially completed work shall not constitute final acceptance or approval of any such part of the work.

ARTICLE 2.03 NO ESTOPPEL

The City shall not, nor shall any department, officer, agent, or employee thereof, be bound, precluded, or estopped by any determination, decision, acceptance, return, certificate, or payment made or given under or in connection with this Contract by any officer, agent or employee of the City at any time either before or after final completion and acceptance of the work and payment therefor: (a) from showing the true and correct classification, amount, quality, or character of the work done, or that any determination, decision, acceptance, return certificate or payment is untrue, incorrect or improperly made in any particular, or that the work or any part thereof does not in fact conform to the requirements of the Contract Documents, and (b) from demanding and recovering from the Contractor any overpayments made to him or such damages as it may sustain by reason his failure to comply with the requirements of the Contract of Documents, or both.

ARTICLE 2.04 NO WAIVER OF RIGHTS

Neither the inspection, nor any order, measurements or certificate of the City or its employees, officers, or agents, nor by any order of the City for payment of money, nor any money, nor payments for or acceptance of the whole or any part of the work by the City, nor any extension of time, nor any changes in the Contract, Specifications or Plans, nor any possession by the City or its employees shall operate as a

waiver of any provisions of this Contract, nor any power herein provided nor shall any waiver of any breach of this Contract be held as a waiver of any other subsequent breach.

Any remedy provided in this Contract shall be taken and construed as cumulative, namely, in addition to each and every other suit, action, or legal proceeding. The City shall be entitled as of right to an injunction against any breach of the provisions of this Contract.

SECTION 3
PERFORMANCE OF WORK

ARTICLE 3.01 CONTRACTOR'S RESPONSIBILITY
The Contractor shall do all the work and furnish, at his own cost and expense, all labor, materials, equipment, and other facilities, except as herein otherwise provided, as may be necessary and proper for performing and completing the work under this Contract. The Contractor shall be responsible for the entire work until completed and finally accepted by the City.

The work shall be performed in accordance with the true intent and meaning of the Contract Documents. Unless otherwise expressly provided, the work must be performed in accordance with the best modern practice, with materials as specified and workmanship of the highest quality, all as determined by and entirely to the satisfaction of the Engineer.

Unless otherwise expressly provided, the means and methods of construction shall be such as the Contractor may choose, subject, however, to the approval of the Engineer. Only adequate and safe procedure, methods, structures and equipment shall be used. The Engineer's approval or the Engineer's failure to exercise his right thereon shall not relieve the Contractor of obligations to accomplish the result intended by the Contract, nor shall such create a cause of action for damages.

ARTICLE 3.02 COMPLIANCE WITH LAWS
The Contractor must comply with all local, State and Federal laws, rules, ordinances and regulations applicable to this Contract and to the work done hereunder, and must obtain, at his own expense, all permits, licenses or other authorization necessary for the prosecution of the work.

No work shall be performed under this Contract on Sundays, legal holidays or after regular working hours without the express permission of the Engineer. Where such permission is granted, the Engineer may require that such work be performed without additional expense to the City.

ARTICLE 3.03 INSPECTION
During the progress of the work and up to the date of final acceptance, the Contractor shall, at all times, afford the representatives of the City, the Florida Department of Environmental Regulation, and if applicable, the Federal Environmental Protection Agency and the Federal Department of Labor every reasonable, safe and proper facility for inspecting the work done or being done at the site. The inspection of any work shall not relieve the Contractor of any of his obligations to perform proper and satisfactory work as herein specified. Finished or unfinished work found not to be in strict accordance with the Contract shall be replaced as directed by the Engineer, even though such work may have been previously approved and payment made therefor.

The City shall have the right to reject materials and workmanship which are defective or require their correction. Rejected work and materials must be promptly removed from the site, which must at all times be kept in a reasonably clean and neat condition.

Failure or neglect on the part of the City to condemn or reject bad or inferior work or materials shall not be construed to imply an acceptance of such work or materials, if it becomes evident at any time prior to the final acceptance of the work by the City. Neither shall it be construed as barring the City at any subsequent time from the recovery of damages of such a sum of money as may be needed to build anew all portions of the work in which inferior work or improper materials were used, wherever found.

Should it be considered necessary or advisable by the City at any time before final acceptance of the entire work to make examinations of work already completed, by removing or tearing out all or portions of such work, the Contractor shall, on request, promptly furnish all necessary facilities, labor, and material for that purpose. If such work is found to be defective in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the cost of examination and restoration of the work shall be considered an item of extra work to be paid for in accordance with the provisions of Article 7.02 hereof.

ARTICLE 3.04 PROTECTION
During performance and until final acceptance, the Contractor shall be under an absolute obligation to protect the finished and unfinished work against any damage, loss, or injury. The Contractor shall take proper precaution to protect the finished work from loss or damage, pending completion and the final acceptance of all the work included in the entire Contract, provided that such precaution shall not relieve the Contractor from any and all liability and responsibility for loss or damage to the work occurring before final acceptance by the City. Such loss or damage shall be at the risk of and borne by the Contractor, whether arising from acts or omissions of the Contractor or others. In the event of any such loss or damage, the Contractor shall forthwith repair, replace, and make good the work without extension of time therefor, except as may be otherwise provided herein.

The provisions of this Article shall not be deemed to create any new right of action in favor of third parties against the Contractor or the City.

ARTICLE 3.05 PRESERVATION OF PROPERTY

The Contractor shall preserve from damage all property along the line of the work, or which is in the vicinity of or is in anywise affected by the work, the removal or destruction of which is not called for by the Plans. This applies, but is not limited, to the public utilities, trees, lawn areas, building monuments, fences, pipe and underground structures, public streets (except natural wear and tear of streets resulting from legitimate use thereof by the Contractor), and wherever such property is damaged due to the activities of the Contractor, it shall be immediately restored to its original condition by the Contractor and at his own expense.

In case of failure on the part of the Contractor to restore such property, or make good such damage or injury, the City may, upon forty-eight (48) hour written notice, proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof will be deducted from any monies due or which may become due the Contractor under this Contract. Nothing in this clause shall prevent the Contractor from receiving proper compensation for the removal, damage, or replacement of any public or private property not shown on the Plans, when this is made necessary by alteration of grade or alignment authorized by the Engineer, provided that such property has not been damaged through fault of the Contractor, his employees or agents.

ARTICLE 3.06 BOUNDARIES
The Contractor shall confine his equipment, apparatus, the storage of materials, supplies and apparatus of his workmen to the limits indicated on the plans, by law, ordinances, permits or direction of the Engineer.

ARTICLE 3.07 SAFETY AND HEALTH REGULATIONS
The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91- 596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL91-54).

ARTICLE 3.08 TAXES
All taxes of any kind and character payable on account of the work done and materials furnished under this Contract shall be paid by the Contractor and shall be deemed to have been included in his bid. The laws of the State of Florida provide that sales and use taxes are payable by the Contractor upon the tangible personal property incorporated in the work and such taxes shall be paid by the Contractor and shall be deemed to have been included in his bid.

ARTICLE 3.09 ENVIRONMENTAL CONSIDERATIONS
The Contractor, in the performance of the work under this Contract, shall comply with all Local, State and Federal laws, statutes, ordinances, rules and regulations applicable to protection of the environment; and, in the event he violates any of the provisions of same, he shall be answerable to the Local, State and Federal agencies designated by law to protect the environment. In the event the City receives, from any of the environmental agencies, a citation which is occasioned by an act or omission of the Contractor or his subcontractor or any officers, employees or agents of either, it is understood and agreed that the Contractor shall automatically become a party-respondent under said citation; and the City immediately shall notify the Contractor and provide him with a copy of said citation.

The Contractor shall comply with the requirements of the citation and correct the offending conditions(s) within the time stated in said citation and further shall be held fully responsible for all fines and/or penalties.

SECTION 4
TIME PROVISIONS

ARTICLE 4.01 TIME OF START AND COMPLETION
The Contractor must commence work within thirty (30) days subsequent to the date of the receipt of the "Notice to Proceed" by the City unless otherwise provided in the Specific Provisions and Special Instructions. Time being of the essence of this Contract, the Contractor shall thereafter prosecute the work diligently, using such means and methods of construction as well as secure its full completion in accordance with the requirements of the Contract Documents no later than the date specified therefor, or on the date to which the time for completion may be extended.

The Contractor must complete the work covered by this Contract in the number of consecutive calendar days set forth in the Instructions to Bidders, unless the date of completion is extended pursuant to the provisions of Article 4.05 hereof. The period for performance shall start from the date of signing of this Agreement by the City.

The actual date of completion will be established after a final inspection as provided in Article 4.07 hereof.

ARTICLE 4.02 PROGRESS SCHEDULE
To enable the work to be laid out and prosecuted in an orderly and expeditious manner, the Contractor shall submit to the Engineer a proposed progress schedule within fifteen (15) days after the award of this Contract.

The schedule shall state the Contract starting date, time for completion and date of completion and shall show the anticipated time of starting and completion of each of the various operations to be performed under this Contract, together with all necessary and appropriate information regarding sequence and correlation of work and an estimated time required for the delivery of all materials and equipment required for the work. The proposed schedule shall be revised as directed by the Engineer until finally approved by him, and, after such approval, shall be strictly adhered to by the Contractor. The approved progress schedule may be changed only with the written permission of the Engineer.

If the Contractor shall fail to adhere to the approved progress schedule or the schedule as revised, he shall promptly adopt such other or additional means and methods of construction as will make up for the time lost, and will assure completion in accordance with the contract time.

ARTICLE 4.03 APPROVAL REQUESTS
From time to time, as the work progresses and in the sequence indicated by the approved schedule, the Contractor must submit to the Engineer a specific request, in writing, for each item of information or approval required of him by the Contract. These requests must be submitted sufficiently in advance of the date upon which the information or approval is actually required by the Contractor to allow for the time the Engineer may take to act upon such submissions or resubmissions. The Contractor shall not have any right to an extension of time on account of delays due to his failure to submit his requests for the required information or the required approval in accordance with these requirements.

ARTICLE 4.04 COORDINATION WITH OTHER CONTRACTORS
During progress of the work, other Contractors may be engaged in performing other work on this project or on other projects on the site. In that event, the Contractor shall coordinate the work to be done hereunder with the work of such other Contractors in such manner as the Engineer may direct.

ARTICLE 4.05 EXTENSION OF TIME
If such an application is made, the Contractor shall be entitled to an extension of time for delay in completion of the work should the Contractor be obstructed or delayed in the commencement, prosecution or completion of any part of said work by any act or delay of the City, or by acts or omissions of other Contractors on this project, or by a riot, insurrection, war, pestilence, acts of public authorities, fire, lightning, hurricanes, earthquakes, tornadoes, floods, extremely abnormal and excessive inclement weather as indicated by the records of the local weather bureau for a five-year period preceding the date of the Contract, or by strikes, or other causes, which causes of delay mentioned in this Article, in the opinion of the City, are entirely beyond the expectation and control of the Contractor.

The Contractor shall, however, be entitled to an extension of time for such causes only for the number of days of delay which the City may determine to be due solely to such causes and only to the extent that such occurrences actually delay the completion of the project and then only if the Contractor shall have strictly complied with all of the requirements of Articles 4.01, 4.02, 4.03 and 4.04 hereof. It is hereby understood that the determination by the Engineer as to the order and sequence of the work shall not in itself constitute a basis for extension of time.

The determination made by the City on an application for an extension of time shall be binding and conclusive on the Contractor.

Delays caused by failure of the Contractor's materialmen, manufacturers, and dealers to furnish approved working drawings, materials, fixtures, equipment, appliances, or other fittings on time or failure of subcontractors to perform their work shall not constitute a basis of extension of time.

The Contractor agrees to make no claim for damages for delay in the performance of this Contract occasioned by any act or omission to act of the City or any of its representatives or because of any injunction which may be brought against the City or its representatives and agrees that any such claim shall be fully compensated for by an extension of time to complete performance of the work as provided herein.

ARTICLE 4.06 LIQUIDATED DAMAGES
It is mutually agreed between the parties that time is the essence of this Contract and that there will be on the part of the City considerable monetary damage in the event the Contractor should fail to complete the work within the time fixed for completion in the Contract or within the time to which such completion may have been extended.

The amount per day set forth in the Instructions to Bidders is hereby agreed upon as the liquidated damages for each and every calendar day that the time consumed in completing the work under this Contract exceeds the time allowed.

This amount shall, in no event, be considered as a penalty or otherwise than as the liquidated and adjusted damages to the City because of the delay and the Contractor and his Surety agree that the stated sum per day for each such day of delay shall be deducted and retained out of the monies which may become due hereunder and if not so deductible, the Contractor and his Surety shall be liable therefor.

ARTICLE 4.07 FINAL INSPECTION
When the work has been completed in accordance with the requirements of the Contract and final cleaning up performed, a date for final inspection of the work by the Engineer shall be set by the Contractor in a written request therefor, which date shall be not less than ten (10) days after the date of such request. The work will be deemed complete as of the date so set by the Contractor if, upon such inspection, the Engineer determines that no further work remains to be done at the site.

If such inspection reveals interms of work still to be performed, however, the Contractor shall promptly perform them and then request a reinspection. If, upon such inspection, the Engineer determines that the work is complete, the date of final completion shall be deemed to be the last day of such reinspection.

SECTION 5
SUBCONTRACTS AND ASSIGNMENTS

ARTICLE 5.01 LIMITATIONS AND CONSENT
The Contractor shall not assign, transfer, convey, sublet or otherwise dispose of this Contract or of his right, title, or interest therein, or his power to execute such Contract, or to assign any monies due or to become due thereunder to any other person, firm or corporation unless the previous written consent of the City shall first be obtained thereto and the giving of any such consent to a particular subcontract or assignment shall not dispense with the necessity of such consent to any further or other assignment.

Before making any subcontract, the Contractor must submit a

written statement to the Engineer, giving the name and address of the proposed contractor, the portion of the work and materials which he is to perform and furnish and any other information tending to prove that the proposed subcontractor has the necessary facilities, skill, integrity, past experience and financial resources to perform the work in accordance with the terms and conditions of this Contract.

If the City finds that the proposed subcontractor is qualified, the Contractor will be notified in writing. The City may revoke approval of any subcontractor when such subcontractor evidences an unwillingness or inability to perform his work in strict accordance with these Contract Documents. Notice of such revocation of approval will be given in writing to the Contractor.

The Contractor will promptly, upon request, file with the City a conformed copy of the subcontract. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the terms of these Contract Documents, insofar as applicable to the work of subcontractors, and to give the Contractor the same power as regards terminating any subcontracts that the City may exercise over the Contractor under provisions of these Contract Documents.

The Contractor shall be required to perform with his own forces at least twenty-five (25) percent of the work, unless written consent to subcontract a greater percentage of the work is first obtained from the City.

ARTICLE 5.02 RESPONSIBILITY
The approval by the City of a subcontractor shall not relieve the Contractor of any of his responsibilities, duties, and liabilities hereunder. The Contractor shall be solely responsible to the City for the acts or defaults or omissions of his subcontractor and of such subcontractor's officers, agents, and employees, each of whom shall for all purposes be deemed to be the agent or employee of the Contractor. Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and the City.

SECTION 6
SECURITY AND GUARANTY

ARTICLE 6.01 CONTRACT SECURITY
The Contractor shall execute and deliver to the City a Performance Bond on the form as provided herein, in an amount at least equal to one hundred (100) percent of the full Contract price, such Bond to be executed by a surety company acceptable to the City. The surety on such Performance Bond shall be a surety company duly authorized to do business in the State of Florida, and the Bond shall be issued or countersigned by a local resident producing agent of such surety company who is a resident of the State of Florida, regularly commissioned and licensed in said State, and satisfactory evidence of the authority of the person or persons executing such Bond shall be submitted with the Bond. The Performance Bond shall serve as security for the faithful performance of this Contract, including maintenance and guaranty provisions, and for the payment of all persons performing labor and furnishing materials in connection with the Contract. The premiums on the Performance Bond shall be paid by the Contractor.

If, at any time, the City shall become dissatisfied with any surety or sureties then upon the Performance Bond, or if for any other reason such bond shall cease to be adequate security for the City, the Contractor shall, within five days after notice so to do, substitute an acceptable Bond in such form and sum and signed by such other sureties as may be satisfactory to the City. The premiums on such Bond shall be paid by the Contractor. No further partial payments shall be deemed due or shall be made until the new sureties have qualified.

ARTICLE 6.02 CONTRACTORS INSURANCE
Insurance required shall be as indicated on Special Instructions pages beginning with "INS-1"

ARTICLE 6.03 AGAINST CLAIMS AND LIENS
The City may withhold from the Contractor as much as any approved payments to him as may, in the opinion of the City, be necessary to secure (a) just claims of any persons supplying labor or materials to the Contractor or any of his subcontractors for the work then due and unpaid; (b) loss due to defective work not remedied, or (c) liability, damage, or loss due to injury to persons or damages to the work or property of other contractors, subcontractors, or others, caused by the act or neglect of the Contractor or of any of his subcontractors. The City shall have the right, as agent for the Contractor, to apply any such amounts so withheld in such manner as the City may deem proper to satisfy such claims or to secure such protection. Such application of such money shall be deemed payments for the account of the Contractor.

ARTICLE 6.04 MAINTENANCE AND GUARANTY
The Contractor hereby guarantees all the work furnished under this Contract against any defects in workmanship and materials for a period of one year following the date of final acceptance of the work by the City. Under this guarantee, the Contractor hereby agrees to make good, without delay, at his own expense, any failure of any part of the work due to faulty materials or manufacture, construction, or installation, or the failure of any equipment to perform satisfactorily all the work put upon it within the limits of the Contract Documents, and further, shall make good any damage to any part of the work caused by such failure. It is hereby agreed that the Performance Bond shall fully cover all guarantees contained in this Article.
It is also agreed that all warranties, expressed or implied, inure to the benefit of the City and are enforceable by the City.

SECTION 7
CHANGES

ARTICLE 7.01 MINOR CHANGES
The City reserves the right to make such additions, deductions, or changes to this Contract from time to time as

it deems necessary and in a manner not materially affecting the substance thereof or materially changing the price to be paid in order to carry out and complete more fully and perfectly the work herein agreed to be done and performed. This Contract shall in no way be invalidated by any such additions, deductions, or changes, and no claim by the Contractor shall be made for any loss of anticipated profits thereby.

Construction conditions may require that minor changes be made in the location and installation of the work and equipment to be furnished and other work to be performed hereunder, and the Contractor when ordered by the Engineer, shall make such adjustments and changes in said locations and work as may be necessary, without additional cost to the City, provided such adjustments and changes do not alter the character, quantity of cost of the work as a whole, and provided further that Plans and Specifications showing such adjustments and changes are furnished to the Contractor by the City within a reasonable time before any work involving such adjustment and changes is begun. The Engineer shall be the sole judge of what constitutes a minor change for which no additional compensation shall be allowed.

ARTICLE 7.02 EXTRA WORK

The City may at any time by a written order and without notice to the sureties require the performance of such extra work as it may find necessary or desirable. An order for extra work shall be valid only if issued in writing and signed by the Mayor and the work so ordered must be performed by the Contractor.

The amount of compensation to be paid to the Contractor for any extra work as so ordered shall be determined as follows:

(a)By such applicable unit prices, if any, as are set forth in the Proposal; or

(b)If no such unit prices are set forth then by a lump sum or other unit prices mutually agreed upon by the City and the Contractor; or

(c)If no such unit prices are set forth in the Proposal and if the parties cannot agree upon a lump sum or other unit prices then by the actual net cost in money to the Contractor of the extra work performed, which cost shall be determined as follows:

(1) For all labor and foreman in direct charge of the authorized operations, the Contractor shall receive the current local rate of wages to be agreed upon, in writing, before starting such work for each hour that said labor and foremen are actually engaged thereon, to which shall be added an amount equal to 25 percent of the sum thereof which shall be considered and accepted as full compensation for general supervision, FICA taxes, contributions under the Florida Unemployment Compensation Act, insurance, bond, subcontractor's profit and overhead, the furnishing of small tools and miscellaneous equipment used, such as picks, shovels, hand pumps, and similar items.

(2) For all materials used, the Contractor shall receive the actual cost of such materials delivered at the site or previously approved delivery point as established by original receipted bills. No percentage shall be added to this cost.

(3) For special equipment and machinery such as power-driven pumps, concrete mixers, trucks, and tractors, or other equipment, required for the economical performance of the authorized work, the Contractor shall receive payment based on the average local area rental price for each item of equipment and the actual time of its use on the work. No percentage shall be added to this sum.

(4) Records of extra work done under this procedure shall be reviewed at the end of each day by the Contractor or his representative and the Engineer. Duplicate copies of accepted records shall be made and signed by both Contractor or his representative and the Engineer, and one copy retained by each.

Request for payment for approved and duly authorized extra work shall be submitted in the same form as Contract work or in the case of work performed under paragraph (c) (1) above upon a certified statement supported by receipted bills. Such statement shall be submitted for the current Contract payment for the month in which the work was done.

ARTICLE 7.03 DISPUTED WORK

If the Contractor is of the opinion that any work required, necessitated, or ordered violates the terms and provisions of this Contract, he must promptly notify the Engineer, in writing, of his contentions with respect thereto and request a final determination thereof. If the Engineer determines that the work in question is Contract work and not extra work or that the order complained of is proper, he will direct the Contractor to proceed and the Contractor shall promptly comply. In order, however, to reserve his right to claim compensation for such work or damages resulting from such compliance, the Contractor must, within five (5) days after receiving notice of the Engineer's determination and direction, notify the City in writing that the work is being performed or that the determination and direction is being complied with under protest. Failure of the Contractor to notify shall be deemed as a waiver of claim for extra compensation or damages therefor.

Before final acceptance by the City, all matters of dispute must be adjusted to the mutual satisfaction of the parties thereto. Final determinations and decisions, in case any questions shall arise, shall constitute a condition precedent to the right of the Contractor to receive the money therefor until the matter in question has been adjusted.

ARTICLE 7.04 OMITTED WORK

The City may at any time by a written order and without notice to the sureties require the omission of such Contract work as it may find necessary or desirable.

An order for omission of work shall be valid only if signed by the Mayor and the work so ordered must be omitted by the Contractor. The amount by which the Contract price shall be reduced shall be determined as follows:

(a) By such applicable unit prices, if any, as are set forth in the Contract; or

(b) By the appropriate lump sum price set forth in the Contract; or

(c) By the fair and reasonable estimated cost to the City

of such omitted work as determined by the Engineer and approved by the City.

SECTION 8
CONTRACTOR'S EMPLOYEES

ARTICLE 8.01 CHARACTER AND COMPETENCY
The Contractor and his subcontractors shall employ upon all parts of the work herein contracted for only competent, skillful, and trustworthy workers. Should the Engineer at any time give notice, in writing, to the Contractor or his duly authorized representative on the work that any employee in his opinion is incompetent, unfaithful, disorderly, careless, unobservant of instructions, or in any way a detriment to the satisfactory progress of the work, such employee shall immediately be dismissed and not again allowed upon the site.

ARTICLE 8.02 SUPERINTENDENCE
The Contractor shall give his personal supervision to the faithful prosecution of the work and in case of his absence shall have a competent, experienced, and reliable supervisor or superintendent, acceptable to the Engineer on the site who shall follow without delay all instructions of the Engineer in the prosecution and completion of the work and every part thereof, in full authority to supply workers, material, and equipment immediately. He shall keep on hand at all times copies of the Contract Documents.

ARTICLE 8.03 EMPLOYMENT OPPORTUNITIES
The Contractor shall, in the performance of the work required to be done under this Contract, employ all workers without discrimination regarding race, creed, color, sex or national origin and must not maintain or provide facilities that are segregated on the basis of race, color, creed or national origin.

ARTICLE 8.04 RATES OF WAGES
On federally assisted projects, the rates of wages to be paid under this Contract shall not be less than the rates of wages set forth in Section 12 of this Agreement.

On other projects, no wage rate determination is included. Florida's Prevailing Wage Law (Section 215.19, Florida Statutes) was repealed effective April 25, 1979.

ARTICLE 8.05 PAYROLL REPORTS
The Contractor and each subcontractor shall, if requested to do so, furnish to the Engineer a duly certified copy of his payroll and also any other information required by the Engineer to satisfy him that the provisions of the law as to the hours of employment and rate of wages are being observed.

Payrolls shall be prepared in accordance with instructions furnished by the City and on approved forms. The Contractor shall not carry on his payroll any persons not employed by him. Subcontractor's employees shall be carried only on the payrolls of the employing subcontractor.

SECTION 9
CONTRACTOR'S DEFAULT

ARTICLE 9.01 CITY'S RIGHT AND NOTICE
It is mutually agreed that: (a) if the Contractor fails to begin work when required to do so, or (b) if at any time during the progress of the work it shall appear to the Engineer that the Contractor is not prosecuting the work with reasonable speed, or is delaying the work unreasonably and unnecessarily, or (c) if the force of workmen or quality or quantity of material furnished are not sufficient to insure completion of the work within the specified time and in accordance with the Specifications hereto attached, or (d) if the Contractor shall fail to make prompt payments for materials or labor or to subcontractors for work performed under the Contract, or (e) if legal proceedings have been instituted by others than the City in such manner as to interfere with the progress of the work and may subject the City to peril of litigation or outside claims of (f) if the Contractor shall be adjudged a bankrupt or make an assignment for the benefit of creditors, or (g) if in any proceeding instituted by or against the Contractor an order shall be made or entered granting an extension of time of payment, composition, adjustment, modification, settlement or satisfaction of his debts or liabilities, or (h) if a receiver or trustee shall be appointed for the Contractor or the Contractor's property, or (i) if the Contract or any part thereof shall be sublet without the consent of the City being first obtained in writing, or (j) if this Contract or any right, monies, or claim thereunder shall be assigned by the Contractor, otherwise than as herein specified, or (k) if the Contractor shall fail in any manner of substance to observe the provisions of this Contract, or (l) if any of the work, machinery, or equipment shall be defective, and shall not be replaced as herein provided, or (m) if the work to be done under this Contract shall be abandoned, then such fact or conditions shall be certified by the Engineer and thereupon the City without prejudice to any other rights or remedies of the City, shall have the right to declare the Contractor in default and so notify the Contractor by a written notice, setting forth the ground or grounds upon which such default is declared and the Contractor must discontinue the work, either as a portion of the work or the whole thereof, as directed.

ARTICLE 9.02 CONTRACTOR'S DUTY UPON DEFAULT
Upon receipt of notice that his Contract is in default, the Contractor shall immediately discontinue all further operations on the work or such part thereof, and shall immediately quit the site or such part thereof, leaving untouched all plant, materials, equipment, tools, and supplies.

ARTICLE 9.03 COMPLETION OF DEFAULTED WORK
The City, after declaring the Contractor in default, may then have the work completed or the defective equipment or machinery replaced or anything else done to complete the work in strict accordance with the Contract Documents by such means and in such manner, by Contract with or without public letting, or otherwise, as it may deem advisable,

utilizing for such purpose without additional cost to the City such of the Contractor's plant, materials, equipment, tools, and supplies remaining on the site, and also such subcontractors as it may deem advisable.

The City shall reimburse all parties, including itself, for the expense of such completion, including liquidated damages, if any, and the cost of reletting. The City shall deduct this expense from monies due or to become due to the Contractor under this Contract, or any part thereof, and in case such expense is more than the sum remaining unpaid of the original contract price, the Contractor and his sureties shall pay the amount of such deficiency to the City.

ARTICLE 9.04 PARTIAL DEFAULT
In case the City shall declare the Contractor in default as to a part of the work only, the Contractor shall discontinue such part, shall continue performing the remainder of the work in strict conformity with the terms of the Contract, and shall in no way hinder or interfere with any other contractor or person whom the City may engage to complete the work as to which the Contractor was declared in default.

SECTION 10
PAYMENTS

ARTICLE 10.01 PRICES
For the Contractor's complete performance of the work, the City will pay and the Contractor agrees to accept, subject to the terms and conditions hereof, the lump sum prices or unit prices in the Contractor's Proposal and the award made therein, plus the amount required to be paid for any extra work ordered under Article 7.02 hereof, less credit for any work omitted pursuant to Article 7.04 hereof. Under unit price items, the number of units actually required to complete the work under the Contract may be more than stated in the Proposal. The Contractor agrees that no claim will be made for any damages or for loss of profits because of a difference between the quantities of the various classes of work assumed and stated in the Proposal Form as a basis for comparing Proposals and the quantities of work actually performed.

The sum as awarded for any lump sum Contract or lump sum Contract Item shall represent payment in full for all of the various classes of work, including materials, equipment, and labor necessary or required to complete, in conformity with the Contract Document, the entire work shown, indicated or specified under the lump sum Contract or lump sum Contract Item.

The amount as awarded as a unit price for any unit price Contact Item shall represent payment in full for all the materials, equipment, and labor necessary to complete, in conformity with the Contract Documents, each unit of work shown, specified, or required under the said unit price Contract Item.

No payment other than the amount as awarded will be made for any class of work included in a lump sum Contract Item or a unit price Contract Item, unless specific provision is made therefor in the Contract Documents.

ARTICLE 10.02 SUBMISSION OF BID BREAKDOWN
Within fifteen (15) days after the execution of this Contract, the Contractor must submit to the Engineer in duplicate an acceptable breakdown of the lump sums and unit prices bid for items of the Contract, showing the various operations to be performed under the Contract, as described in the progress schedule required under Article 4.02 hereof, and the value of each of such operations, the total of such items to equal the total price bid. The Contractor shall also submit such other information relating to the bid prices as may be required and shall revise the bid breakdown as directed. Thereafter, the breakdown may be used for checking the Contractor's applications for partial payments hereunder but shall not be binding upon the City or the Engineer for any purpose whatsoever.

ARTICLE 10.03 REPORTS, RECORDS AND DATA
The Contractor shall furnish to the Engineer such schedules of quantities and costs, progress schedules, reports, invoices, delivery tickets, estimates, records, and other data as the Engineer may request concerning work performed or to be performed and the materials furnished under the Contract.

ARTICLE 10.04 PAYMENTS BY CONTRACTOR
The Contractor shall pay (a) for all transportation and utility services not later than the 20th day of the calendar month following that in which such services are rendered, (b) for all materials, tools, and equipment delivered at the site of the project, and the balance of the cost thereof not later than the 30th day following the completion of that part of the work in or on which such materials, tools, and equipment are incorporated or used, and (c) to each of his subcontractors, not later than the 5th day following each payment to the Contractor, the respective amounts allowed the Contractor on account of the work performed by his subcontractors, to the extent of each subcontractor's interest therein; and proof of such payments or releases therefor shall be submitted to the Engineer upon request.

ARTICLE 10.05 PARTIAL PAYMENTS
On or about the first of each month, the Contractor shall make and certify an estimate, on forms prescribed by the City, of the amount and fair value of the work done, and may apply for partial payment therefor. The Contractor shall revise the estimate as the Engineer may direct. When satisfactory progress has been made, and shows that the value of the work completed since the last payment exceeds one percent (1%) of the total Contract price in amount, the Engineer will issue a certificate that such work has been completed and the value thereof. The City will then issue a voucher to the Contractor in accordance with the following schedule:

FOR CONTRACT AMOUNTS UNDER $250,000

(A)In the amount of ninety percent (90%) of the value of the work completed as certified until construction is one hundred percent (100%) complete (operational or beneficial occupancy), the withheld amount may be reduced below ten percent (10%), at the Engineer's option, to only that amount necessary to assure completion.

FOR CONTRACT AMOUNTS OVER $250,000

(A)In the amount of ninety percent (90%) of the value of the work completed as certified until construction is fifty percent (50%) complete.

(B)When the dollar value, as determined by the Engineer, of satisfactorily completed work in place is greater than fifty percent (50%) of the original contract price, vouchers for partial payment will be issued by the City to the Contractor in the amount of one hundred percent (100%) of the value of the work, above 50%, completed as certified for that payment period.

(C)If the Contractor has performed satisfactorily and the work is substantially complete (operational or beneficial occupancy) the withheld amount may be reduced, at the Engineer's option, to only that amount necessary to assure completion.

In addition to the Conditions set forth in (A), (B), and (C) above, payments will always be less any sums that may be retained or deducted by the City under the terms of any of the contract documents and less any sums that may be retained to cover monetary guarantees for equipment, materials or progress performance.

Payment on estimates made on or about the first of the month may be expected on or about the 20th of the month.

Unless specified otherwise in the Contract Items, the delivered cost of equipment and nonperishable materials suitably stored at the site of the work and tested for adequacy may be included in the Contractor's application for partial payment provided, however, that the Contractor shall furnish evidence satisfactory to the City that the Contractor is the unconditional owner and in possession of such materials or equipment. The amount to be paid will be 90 percent of the invoice cost to the Contractor which cost shall be supported by receipted bills within 30 days of the date of payment by the City to the Contractor. Such payment shall not relieve the Contractor from full responsibility for completion of the work and for protection of such materials and equipment until incorporated in the work in a permanent manner as required by the Contract Documents.

Before any payment will be made under this Contract, the Contractor and every subcontractor, if required, shall deliver to the Engineer a written, verified statement, in satisfactory form, showing in detail all amounts then due and unpaid by such Contractor or subcontractor to all laborers, workmen, and mechanics, employed by him under the Contract for the performance of the work at the site thereof, for daily or weekly wages, or to other persons for materials, equipment, or supplies delivered at the site of the work during the period covered by the payment under consideration.

ARTICLE 10.06 FINAL PAYMENT

Under determination of satisfactory completion of the work under this Contract as provided in Article 4.07 hereof, the Engineer will prepare the final estimate showing the value of the completed work. This estimate will be prepared within 30 days after the date of completion or as soon thereafter as the necessary measurements and computations can be made. All prior certificates and estimates, being approximate only, are subject to correction in the final estimate and payment.

When the final estimate has been prepared and certified by Engineer, he will submit to the Mayor and City Council the final certificate stating that the work has been completed and the amount based on the final estimate remaining due to the Contractor. The City will then accept the work as fully completed and will, not later than 30 days after the final acceptance, as defined in Article 1.02, of the work done under this Contract, pay the Contractor the entire amount so found due thereunder after deduction of all previous payments and all percentages and amounts to be kept and retained under provisions of this Contract; provided, however, and it is understood and agreed that, as a precedent to receiving final payment, the Contractor shall submit to the City a sworn affidavit that all bills for labor, service, materials, and subcontractors have been paid and that there are no suits pending in connection with this work. The City, at its option, may permit the Contractor to execute a separate surety bond in a form satisfactory to the City. The surety bond shall be in the full amount of the suit or suits.

Neither the final payment nor any part of the retained percentage shall be paid until the Contractor, if required, shall furnish the City with a complete release from any should remain unsatisfied after all payments are made, the Contractor shall refund to the City all monies which the City may be compelled to pay in discharging such claim, including incidental costs and attorney's fees.

ARTICLE 10.07 ACCEPTANCE OF FINAL PAYMENT

The acceptance by the Contractor, or by anyone claiming by or through him, of the final payment shall operate as and shall be a release to the City and every officer and agent thereof from any and all claims and liability to the Contractor for anything done or furnished in connection with the work or project and for any act or neglect of the Contractor or of any others relating to or affecting the work. No payment, however, final or otherwise, shall operate to release the Contractor or his sureties from any obligations under this Contract or the Performance Bond.

SECTION 11
MISCELLANEOUS PROVISIONS

ARTICLE 11.01 CONTRACTOR'S WARRANTIES

In consideration of, and to induce the award of this contract to him, the Contractor represents and warrants:

(a)That he is not in arrears to the City upon debt or contract, and he is not a defaulter, as surety, contractor, or otherwise.

(b)That he is financially solvent and sufficiently experienced and competent to perform the work.

(c)That the work can be performed as called for by the Contract Documents.

(d)That the facts stated in his proposal and the information given by him are true and correct in all respects.

(e)That he is fully informed regarding all the conditions affecting the work to be done and labor and materials to be

furnished for the completion of this Contract, and that his information was secured by personal investigation and research.

ARTICLE 11.02 PATENTED DEVICES, MATERIAL AND PROCESSES

It is mutually understood and agreed that Contract prices include all royalties and costs arising from patents, trademarks, and copyrights in any way involved in the work. Whenever the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, the Contractor shall indemnify and save harmless the City, its officers, agents and employees from any and all claims for infringement by reason of the use of any such patented design, device, tool, material, equipment, or process, to be performed under the Contract, and shall indemnify the said City, its officers, agents, and employees for any costs, expenses, and damages which may be incurred by reason of such infringement at any time during the prosecution or after completion of the work.

ARTICLE 11.03 SUITS AT LAW

In case any action at law or suit in equity may or shall be brought against the City or any of its officers, agents, or employees for or on account of the failure, omission, or neglect of the Contractor or his subcontractors, employees, or agents, to do or perform any of the covenants, acts, matters, or things by this Contract undertaken to be done or performed by the Contractor of his subcontractors, employees, or agents, or from any injuries done to property or persons and caused by the negligence or alleged negligence of the Contractor of his subcontractors, employees, or agents, or in any other manner arising out of the performance of this Contract, then the Contractor shall immediately assume and take charge of the defense of such actions or suits in like manner and to all intents and purposes as if said actions or suits have been brought directly against the Contractor, and the Contractor shall also indemnity and save harmless the City, its officers, agents, and employees from any and all loss, cost or damage whatever arising out of such actions or suits, in like manner and to all intents and purposes as if said actions or suits have been brought directly against the Contractor.

The Contractor shall and does hereby assume all liability for and agrees to indemnify the City or its Engineer against any or all loss, costs, damages, and liability for any or by reason of any lien, claims or demands, either for materials purchased or for work performed by laborers, mechanics, and others and from any damages, costs, actions, or causes of action and judgement arising from injuries sustained by mechanics, laborers, or other persons by reason of accidents or otherwise, whether caused by the carelessness or inefficiency or neglect of said Contractor, his subcontractors, agents, employees, workmen or otherwise.

ARTICLE 11.04 CLAIMS FOR DAMAGES

If the Contractor shall claim compensation for any damage sustained, other than for extra or disputed work covered by Article 7.02 and 7.03 hereof, by reason of any act or omission of the City, its agents, or any persons, he shall, within five days after sustaining such damage, make and deliver to the Engineer a written statement of the nature of the damage sustained and of the basis of the claim against the City. On or before the 15th of the month succeeding that in which any damage shall have been sustained, the Contractor shall make and deliver to the Engineer an itemized statement of the details and amounts of such damage, duly verified by the Contractor. Unless such statements shall be made delivered within the times aforesaid, it is stipulated that and all claims for such compensation shall be forfeited and invalidated, and the Contractor shall not be entitled to payment on account of such claims.

ARTICLE 11.05 NO CLAIMS AGAINST INDIVIDUALS

No claim whatsoever shall be made by the Contractor against any officer, agent, employee of the City for, or on account of, anything done or omitted to be done in connection with this Contract.

ARTICLE 11.06 LIABILITY UNAFFECTED

Nothing herein contained shall in any manner create any liability against the City on behalf of any claim for labor, services, or materials, or of subcontractors, and nothing herein contained shall affect the liability of the Contractor or his sureties to the City or to any workmen or materialsmen upon bond given in connection with this Contract.

ARTICLE 11.07 INDEMNIFICATION PROVISIONS

Whenever there appears in this Agreement, or in the other Contact Documents made a part hereof, an indemnification provision within the purview of Chapter 725.06, Laws of Florida, the monetary limitation on the extent of the indemnification under each such provision shall be One Million Dollars or a sum equal to the total Contract price, whichever shall be the greater.

ARTICLE 11.08 UNLAWFUL PROVISIONS DEEMED STRICKEN

If this contract contains any unlawful provisions not an essential part of the Contract and which shall not appear to have a controlling or material inducement to the making thereof, such provisions shall be deemed of no effect and shall, upon notice by either party, be deemed stricken from the Contract without affecting the binding force of the remainder.

ARTICLE 11.09 LEGAL PROVISIONS DEEMED INCLUDED

Each and every provision of any law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein, and the Contract shall be read and enforced as though it were included herein and if, through mistake or otherwise, any such provision is not inserted or is not correctly inserted, then upon application of either party the Contract shall forthwith be physically amended to make such insertion.

ARTICLE 11.10 DEATH OR INCOMPETENCY OF CONTRACTOR

In the event of death or legal incompetency of a Contractor who shall be an individual or surviving member of a contracting firm, such death or adjudication of incompetency

shall not terminate the Contract, but shall act as default hereunder to the effect provided in Article 9.01 hereof and the estate of the Contractor and his surety shall remain liable hereunder to the same extent as though the Contractor had lived. Notice of default, as provided in Article 9.01 hereof, shall not be required to be given in the event of such death or adjudication of incompetency.

ARTICLE 11.11 NUMBER AND GENDER OF WORDS

Whenever the context so admits or requires, all references herein in one number shall be deemed extended to and including the other number, whether singular or plural, and the use of any gender shall be applicable to all genders.

ARTICLE 11.12 ACCESS TO RECORDS

Representatives of Federal Agencies, if applicable, and the State of Florida shall have access to the work whenever it is in preparation of progress. On federally assisted projects the Federal Agency, the Comptroller General of the United States, or any authorized representative shall have access to any books, documents, papers, and records of the Contractor which are pertinent to the project for the purpose of making audit, examination, excerpts, and transcription thereof.

SECTION 12
LABOR STANDARDS

ARTICLE 12.01 LABOR STANDARDS

The Contractor shall comply with all of the regulations set forth in "Labor Standards Provisions for Federally Assisted Construction Contracts", which may be attached, and any applicable Florida Statutes.

ARTICLE 12.02 NOTICE TO LABOR UNIONS

If required, the Contractor shall provide Labor Unions and other organizations of workers, and shall post, in a conspicuous place available to employees or applicants for employment, a completed copy of the form entitled "Notice to Labor Unions or Other Organizations of Workers" attached to and made a part of this Agreement.

ARTICLE 12.03 SAFETY AND HEALTH REGULATIONS

The Contractor shall comply with the Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91- 596) and under Section 107 of the Contract Work Hours and Safety Standards Act (PL 91-54). Nothing in these Acts shall be construed to supersede or in any manner affect any worker's compensation law or statutory rights, duties, or liabilities of employers and employees under any law with respect to injuries, diseases, or death of employees arising out of, or in the course of, employment.

ARTICLE 12.04 EEO AFFIRMATIVE ACTION REQUIREMENTS

The Contractor understands and agrees to be bound by the equal opportunity requirements of Federal regulations which shall be applicable throughout the performance of work under this Contract. The Contractor also agrees to similarly bind contractually each subcontractor. In policies, the Contractor agrees to engage in Affirmative Action directed at promoting and ensuring equal employment opportunity in the work force used under the Contract (and the Contractor agrees to require contractually the same effort of all subcontractors whose subcontractors exceed $100,000). The Contractor understands and agrees that "Affirmative Action" as used herein shall constitute a good faith effort to achieve and maintain minority employment in each trade in the on-site work force used on the Contract.

ARTICLE 12.05 PREVAILING RATES OF WAGES

Florida's prevailing wage law was repealed effective April 25, 1979.

For Federally assisted projects, appropriate prevailing wage rate determinations are indicated on pages beginning with WR-1.

* * * * * * *

PUBLIC CONSTRUCTION BOND

Bond No. (enter bond number)_____

Name of Contractor:_____

Principal Business Address of Contractor:_____

_____

Telephone Number of Contractor:_____

Name of Surety (if more than one list each):_____

_____

Principal Business Address of Surety:_____

_____

Telephone Number of Surety:_____

Owner is The City of Tampa, Florida

Principal Business Address of Owner: 306 E Jackson St, Tampa, FL 33602

Contract Administration Department (280A4N)

Telephone Number of Owner: 813/274-8456

Contract Number Assigned by City to contract which is the subject of this bond:_____

Legal Description or Address of Property Improved or Contract Number is:_____

_____

_____

_____

General Description of Work and Services:_____

_____

_____

_____

KNOW ALL MEN BY THESE PRESENTS That we, _____

_____
(Name of Contractor)

as Principal, hereinafter called CONTRACTOR, of the State of _____, and

_____(Name of Surety)
a corporation organized and existing under and by virtue of the laws of the State of _____, and regularly authorized to do business in the State of Florida, as SURETY, are held and firmly bound unto the City of Tampa, a municipal corporation organized and existing under the laws of the State of Florida, hereinafter called Owner, in the penal sum of _____Dollars and _____Cents ($_____), lawful money of the United States of America, for the payment whereof well and truly to be made, we bind ourselves, our heirs, executors, and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs the contract dated _____, _____, 20___, between Principal and Owner for construction of _____, the contract being made a part of this bond by reference, in the time and in the manner prescribed in the contract; and

2. Promptly makes payments to all claimants, as defined in Section 255.05(1) (Section 713.01), Florida Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the contract; and

3. Pays Owner all losses, damages, expenses, costs, and attorney's fees, including appellate proceedings, that Owner sustains because of a default by Principal under the contract; and

4. Performs the guarantee of all work and materials furnished under the contract for the time specified in the contract, then this bond is void; otherwise it remains in full force.

5. Contractor and Surety acknowledge that the Work for which this bond has been issued may be one of several such contract documents for a group of projects. This bond does not secure covenants to pay for or to perform design services survey or program management services. The Owner/Obligee is expected to reasonably account for damages that are caused to Owner with respect to Principal's (Contractor's) default in performance of the scope of the Work incorporated by reference into the bond, and notwithstanding any contractual or common law remedy permitted to Owner as against Contractor, the obligation of Surety for any damages under this bond shall be determined by the cost of completion of the Work less the contract balance unpaid upon default of Contractor for the Work plus liquidated damages at the rate of $500.00 per day for delays by the Contractor and/or Surety in reaching substantial completion.

6. The notice requirements for claimants and conditions for entitlement to payment set forth in Section 255.05, Fla. Stat. and the limitations period to actions upon Section 255.05, Fla. Stat. bonds apply to claimants seeking payment from surety under this bond. 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, Florida Statutes.

7. The Surety, for value received, hereby stipulates and agrees that no changes, extensions of time, alterations or additions to the terms of the contract documents or other Work to be performed hereunder, or the specifications referred to therein shall in any way affect its obligations under this bond, and it does hereby waive notice of any such changes, extensions of time, alterations or additions to the terms of the Contract or to Work or to the specifications.

8. The above SURETY states that it has read all of the Contract Documents made by the CONTRACTOR with the CITY, hereto attached, and the terms and conditions of the contract and work, and is familiar therewith and in particular those portions of the Agreement concerning the guaranty of such CONTRACTOR for a period of one year following the date of the final acceptance of the completed work under the Contract by the CITY, all of which this BOND includes.

DATED ON _____, 20___

_____
(Name of Principal)

_____
(Principal Business Address)

By _____

Title _____

_____
Telephone Number of Principal

Countersignature:

_____
(Name of Local Agency)

_____
(Address of Resident Agent)

By _____

Title _____

_____
Telephone Number of Local Agency

_____
(Name of Surety)

_____
(Surety Address)

By _____
(As Attorney in Fact)*

_____
Telephone Number of Surety

Accepted by City of Tampa:

By _____
Bob Buckhorn, Mayor

Date: _____ 20____

Approved as to legal sufficiency:

By _____
Assistant City Attorney

Date: _____, 20____

*(As Attorney in Fact) attach Power of Attorney and Current Certificate with Original Signature

SPECIFICATIONS
GENERAL PROVISIONS

SECTION 1
SCOPE AND INTENT

G-1.01 DESCRIPTION
The work to be done consists of the furnishing of all labor, materials and equipment, and the performance of all work included in this Contract.

G-1.02 WORK INCLUDED
The Contractor shall furnish all labor, superintendence, materials, plant, power, light, heat, fuel, water, tools, appliances, equipment, supplies, and other means of construction necessary or proper for performing and completing the work. He shall obtain and pay for all required permits. He shall perform and complete the work in the manner best calculated to promote rapid construction consistent with safety of life and property and to the satisfaction of the Engineer, and in strict accordance with the Contract Documents. The Contractor shall clean up the work and maintain it during and after construction, until accepted, and shall do all work and pay all costs incidental thereto. He shall repair or restore all structures and property that may be damaged or disturbed during performance of the work.

The cost of incidental work described in these General Provisions, for which there are no specific Contract Items, shall be considered as part of the overhead cost of doing the work and shall be included in the prices for the various Contract Items. No additional payment will be made therefor.

The Contractor shall provide and maintain such modern plant, tools, and equipment as may be necessary, in the opinion of the Engineer, to perform in a satisfactory and acceptable manner all the work required by this Contract. Only equipment of established reputation and proven efficiency shall be used. The Contractor shall be solely responsible for the adequacy of his plant and equipment, prior approval of the Engineer notwithstanding.

G-1.03 PUBLIC UTILITY INSTALLATIONS AND STRUCTURES
Public utility installations and structures shall be understood to include all poles, tracks, pipes, wires, conduits, house service connections, vaults, manholes, and all other appurtenances and facilities pertaining thereto whether owned or controlled by the City, other governmental bodies or privately owned by individuals, firms, or corporations, and used to serve the public with transportation, traffic control, gas, electricity, telephone, sewerage, drainage, water or other public or private property which may be affected by the work.

The Contract Documents contain data relative to existing public utility installations and structures above and below the ground surface. These data are not guaranteed as to their completeness or accuracy and it is the responsibility of the Contractor to make his own investigations to inform himself fully of the character, condition and extent of all such installations and structures as may be encountered and as may affect the construction operations.

The Contractor shall protect all public utility installations and structures from damage during the work. Access across any buried public utility installation or structure shall be made only in such locations and by means approved by the Engineer. The Contractor shall so arrange his operations as to avoid any damage to these facilities. All required protective devices and construction shall be provided by the Contractor at his expense. All existing public utilities damaged by the Contractor which are shown on the Plans or have been located in the field by the utility shall be repaired by the Contractor, at his expense, as directed by the Engineer. No separate payment shall be made for such protection or repairs to public utility installations or structures.

Public utility installations or structures owned or controlled by the City or other governmental body which are shown on the Plans to be removed, relocated, replaced or rebuilt by the Contractor shall be considered as a part of the general cost of doing the work and shall be included in the prices bid for the various Contract Items. No separate payment shall be made therefor.

Where public utility installations or structures owned or controlled by the City or other governmental body are encountered during the course of the work, and are not indicated on the Plans or in the Specifications, and when, in the opinion of the Engineer, removal, relocation, replacement or rebuilding is necessary to complete the work under this Contract, such work shall be accomplished by the utility having jurisdiction or such work may be ordered, in writing by the Engineer, for the Contractor to accomplish. If such work is accomplished by the utility having jurisdiction it will be carried out expeditiously and the Contractor shall give full cooperation to permit the utility to complete the removal, relocation, replacement or rebuilding as required. If such work is accomplished by the Contractor, it will be paid for as extra work as provided for in Article 7.02 of the Agreement.

The Contractor shall, at all times in performance of the work, employ approved methods and exercise reasonable care and skill so as to avoid unnecessary delay, injury, damage or destruction of public utility installations and structures; and shall, at all times in the performance of the work, avoid unnecessary interference with, or interruption of, public utility services, and shall cooperate fully with the owners thereof to that end.

All City and other governmental utility departments and other owners of public utilities, which may be affected by the work, will be informed in writing by the Engineer within two weeks after the execution of the Contract or Contracts covering the work. Such notice will set out, in general, and direct attention to, the responsibilities of the City and other governmental

utility departments and other owners of public utilities for such installations and structures as may be affected by the work and will be accompanied by one set of Plans and Specifications covering the work under such Contract or Contracts.

In addition to the general notice given by the Engineer, the Contractor shall give written notice to all City and other governmental utility departments and other owners of public utilities of the location of his proposed construction operations, at least forty-eight (48) hours in advance of breaking ground in any area or on any unit of the work. This can be accomplished by making the appropriate contact with the "Underground Utility Notification Center for Excavators (Call Candy)".

The maintenance, repair, removal, relocation, or rebuilding of public utility installations and structures, when accomplished by the Contractor as herein provided, shall be done by methods approved by the Engineer.

SECTION 2
PLANS AND SPECIFICATIONS

G-2.01 PLANS
The Plans referred to in the Contract Documents bear the general project name and number as shown in the Notice To Bidders.

When obtaining data and information from the Plans, figures shall be used in preference to scaled dimensions, and large scale drawings in preference to small scale drawings.

G-2.02 COPIES FURNISHED TO CONTRACTOR
After the Contract has been executed, the Contractor will be furnished with five sets of paper prints, the same size as the original drawings, of each sheet of the Plans and five copies of the Specifications. Additional copies of the Plans and Specifications, when requested, may be furnished to the Contractor at cost of reproduction.

The Contractor shall furnish each of the subcontractors, manufacturers, and material suppliers such copies of the Contract Documents as may be required for his work.

G-2.03 SUPPLEMENTARY DRAWINGS
When, in the opinion of the Engineer, it becomes necessary to explain more fully the work to be done or to illustrate the work further or to show any changes which may be required, drawings known as Supplementary Drawings, with specifications pertaining thereto, will be prepared by the Engineer and five paper prints thereof will be given to the Contractor.

The Supplementary Drawings shall be binding upon the Contractor with the same force as the Plans. Where such Supplementary Drawings require either less or more than the estimated quantities of work, credit to the City or compensation therefor to the Contractor shall be subject to the terms of the Agreement.

G-2.04 CONTRACTOR TO CHECK PLANS AND DATA
The Contractor shall verify all dimensions, quantities, and details shown on the Plans, Supplementary Drawings, Schedules, Specifications, or other data received from the Engineer, and shall notify him of all errors, omissions, conflicts, and discrepancies found therein. Failure to discover or correct errors, conflicts or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory work, faulty construction or improper operation resulting therefrom nor from rectifying such conditions at his own expense. He will not be allowed to take advantage of any errors or omissions as full instructions will be furnished by the Engineer, should such errors or omissions be discovered. All schedules are given for the convenience of the Engineer and the Contractor and are not guaranteed to be complete. The Contractor shall assume all responsibility for the making of estimates of the size, kind, and quality of materials and equipment included in work to be done under the Contract.

G-2.05 SPECIFICATIONS
The specifications consist of four parts, the General Provisions, the Technical Specifications, the Special Provisions and the Contract Items. The General Provisions and Technical Specifications contain general requirements which govern the work. The Special Provisions and the Contract Items modify and supplement these by detailed requirements for the work and shall always govern, whenever there appears to be conflict.

G-2.06 INTENT
All work called for in the Specifications applicable to this Contract, but not shown on the Plans in their present form, or vice versa, shall be of like effect as if shown or mentioned in both. Work not specified in either the Plans or in the Specifications, but involved in carrying out their intent or in the complete and proper execution of the work, is required and shall be performed by the Contractor as though it were specifically delineated or described.

The apparent silence of the Specifications as to any detail, or the apparent omission from them of a detailed description concerning any work to be done and materials to be furnished, shall be regarded as meaning that only the best general practice is to prevail and that only material and workmanship of the best quality is to be used, and interpretation of these Specifications shall be made upon that basis.

SECTION 3
WORKING DRAWINGS

G-3.01 SCOPE
The Contractor shall promptly prepare and submit layout, detail and shop drawings to insure proper construction, assembly, and installation of the work using those materials and methods as hereafter specified under the Technical Specifications, Special Provisions and Contract Items.

These drawings shall accurately and distinctly present the following:

a. All working and erection dimensions.
b. Arrangements and sectional views.
c. Necessary details, including complete information for making connections between work under this Contract and work under other Contracts.
d. Kinds of materials and finishes.
e. Parts listed and description thereof.

Drawings for mechanical equipment shall present, where applicable, such data as dimensions, weight and performance characteristics. These data shall show conformance with the performance characteristics and other criteria incorporated in the Plans and Specifications.

Each drawing shall be dated and shall contain the name of the project, Division number and description, the technical specifications section number, names of equipment or materials and the location at which the equipment or materials are to be installed. Location shall mean both physical location and location relative to other connected or attached material. The Engineer will return unchecked any submittal which does not contain complete data on the work and full information on related matters.

Stock or standard drawings will not be accepted for review unless full identification and supplementary information is shown thereon in ink or typewritten form.

The Contractor shall review all working drawing submittals before transmitting them to the Engineer to determine that they comply with requirements of the Specifications. Drawings which are incomplete or are not in compliance with the Contract Documents shall not be submitted for processing by the Engineer. The Contractor shall place his stamp of approval on all working drawings submitted to the Engineer to indicate compliance with the above.

G-3.02 APPROVAL
If the working drawings show departures from the Contract requirements, the Contractor shall make specific mention thereof in his letter of submittal; otherwise approval of such submittals shall not constitute approval of the departure. Approval of the drawings shall constitute approval of the subject matter thereof only and not of any structure, material, equipment, or apparatus shown or indicated.

The approval of drawings will be general and shall not relieve the Contractor of responsibility for the accuracy of such drawings, nor for the proper fitting and construction of the work, nor for the furnishing of materials or work required by the Contract and not indicated on the drawings. No work called for by working drawings shall be done until such drawings have been approved by the Engineer.

The procedure in seeking approval of the working drawings shall be as follows:

1.The Contractor shall submit four complete sets of drawings and other descriptive data together with one copy of a letter of transmittal to the Engineer for approval. The letter of transmittal shall contain the name of the project, contract number, technical specifications section number, the name of the Contractor, a list of drawings with numbers and titles, and any other pertinent information.

2.Drawings or descriptive data will be stamped "Approved", "Approved Subject to Corrections Marked", or "Examined and Returned for Correction" and one copy with a letter of transmittal will be returned to the Contractor.

3.If a drawing or other data is stamped "Approved", the Contractor shall insert the date of approval on five additional copies of the document and transmit the five copies to the Engineer together with one copy of a letter of transmittal containing substantially the same information as described in Instruction 1. above.

4.If a drawing or other data is stamped "Approved Subject to Corrections Marked", the Contractor shall make the corrections indicated and proceed as in Instruction 3., above.

5.If a drawing or data is stamped "Examined and Returned for Correction", the Contractor shall make the necessary corrections and resubmit the documents as set forth in Instruction 1., above. The letter of transmittal shall indicate that this is a resubmittal.

The Contractor shall revise and resubmit the working drawings as required by the Engineer, until approval thereof is obtained.

SECTION 4
MATERIALS AND EQUIPMENT

G-4.01 GENERAL REQUIREMENTS
All materials, appliances, and types or methods of construction shall be in accordance with the Specifications and shall, in no event, be less than that necessary to conform to the requirements of any applicable laws, ordinances, and codes.

All materials and equipment shall be new, unused, and correctly designed. They shall be of standard first grade quality, produced by expert personnel, and intended for the use for which they are offered. Materials or equipment which, in the opinion of the Engineer, are inferior or of a lower grade than indicated, specified, or required will not be accepted.

The quality of Workmanship and Materials entering into the work under this Contract shall conform to the requirements of the pertinent sections, clauses, paragraphs, and sentences, both directly and indirectly applicable thereto, of that part of the Technical Specifications, whether or not direct reference to such occurs in the Contract Items.

Equipment and appurtenances shall be designed in conformity with ANSI, ASME, IEEE, NEMA and other

generally accepted standards and shall be of rugged construction and of sufficient strength to withstand all stresses which may occur during fabrication, testing, transportation, installation, and all conditions of operation. All bearings and moving parts shall be adequately protected against wear by bushings or other approved means and shall be fully lubricated by readily accessible devices. Details shall be designed for appearance as well as utility. Protruding members, joints, corners, gear covers, and the like, shall be finished in appearance. All exposed welds shall be ground smooth and the corners of structural shapes shall be mitered.

Equipment shall be of the approximate dimensions as indicated on the Plans or as specified, shall fit the spaces shown on the Plans with adequate clearances, and shall be capable of being handled through openings provided in the structure for this purpose. The equipment shall be of such design that piping and electrical connections, ductwork, and auxiliary equipment can be assembled and installed without causing major revisions to the location or arrangement of any of the facilities.

Machinery parts shall conform exactly to the dimensions shown on the working drawings. There shall be no more fitting or adjusting in setting up a machine than is necessary in assembling high grade apparatus of standard design. The equivalent parts of identical machines shall be made interchangeable. All grease lubricating fittings on equipment shall be of a uniform type. All machinery and equipment shall be safeguarded in accordance with the safety codes of the ANSI and applicable state and local codes.

G-4.02 MANUFACTURER

The names of proposed manufacturers, suppliers, material, and dealers who are to furnish materials, fixtures, equipment, appliances or other fittings shall be submitted to the Engineer for approval, as early as possible, to afford proper investigation and checking. Such approval must be obtained before shop drawings will be checked. No manufacturer will be approved for any materials to be furnished under this Contract unless he shall be of good reputation and have a plant of ample capacity. He shall, upon the request of the Engineer, be required to submit evidence that he has manufactured a similar product to the one specified and that it has been previously used for a like purpose for a sufficient length of time to demonstrate its satisfactory performance.

All transactions with the manufacturers or subcontractors shall be through the Contractor, unless the Contractor shall request, in writing to the Engineer, that the manufacturer or subcontractor deal directly with the Engineer. Any such transactions shall not in any way release the Contractor from his full responsibility under this Contract.

Any two or more pieces of material or equipment of the same kind, type or classification, and being used for identical types of service, shall be made by the same manufacturer.

G-4.03 REFERENCE TO STANDARDS

Whenever reference is made to the furnishing of materials or testing thereof to conform to the standards of any technical society, organization or body, it shall be construed to mean the latest standard, code, specification or tentative specification adopted and published at the date of advertisement for proposals, even though reference has been made to an earlier standard, and such standards are made a part hereof to the extent which is indicated or intended.

Reference to a technical society, organization or body may be made in the Specifications by abbreviations, in accordance with the following list:

AASHTO for American Association of State Highway and Transportation Officials (formerly AASHO)
ACI for American Concrete Institute
AGMA for American Gear Manufacturer's Association
AFBMA for Anti-Friction Bearing Manufacturer's Association
AISC for American Institute of Steel Construction
AISI for American Iron and Steel Institute
ANSI for American National Standards Institute
ASCE for American Society of Civil Engineers
ASTM for American Society for Testing and Materials
ASME for American Society of Mechanical Engineers
AWS for American Welding Society
AWWA for American Water Works Association
AWPA for American Wood Preservers Association
CEMA for Conveyor Equipment Manufacturers Association
CIPRA for Cast Iron Pipe Research Association
IEEE for Institute of Electrical and Electronic Engineers
IPCEA for Insulated Power Cable Engineers Association
NEC for National Electrical Code
NEMA for National Electrical Manufacturers Association
SAE for Society of Automotive Engineers
SHBI for Steel Heating Boiler Institute
Fed.Spec. for Federal Specifications
Navy Spec. for Navy Department Specifications
U.L.,Inc. for Underwriters' Laboratories, Inc.

When no reference is made to a code, standard or specification, the Standard Specifications of the ANSI, the ASME, the ASTM, the IEEE, or the NEMA shall govern.

G-4.04 SAMPLES

The Contractor shall, when required, submit to the Engineer for approval typical samples of materials and equipment. The samples shall be properly identified by tags and shall be submitted sufficiently in advance of the time when they are to be incorporated into the work, so that rejections thereof will not cause delay. A letter of transmittal, in duplicate, from the Contractor requesting approval must accompany all such samples.

G-4.05 EQUIVALENT QUALITY

Whenever, in the Contract Documents, an article, material, apparatus, equipment, or process is called for by trade name or by the name of a patentee, manufacturer, or dealer or by reference to catalogs of a manufacturer or dealer, it shall be understood as intending to mean and specify the article, material, apparatus, equipment or process designated, or any

equal thereto in quality, finish, design, efficiency, and durability and equally serviceable for the purposes for which it is intended.

Whenever material or equipment is submitted for approval as being equal to that specified, the decision as to whether or not such material or equipment is equal to that specified shall be made by the Engineer.

Upon rejection of any material or equipment submitted as the equivalent of that specifically named in the Contract, the Contractor shall immediately proceed to furnish the designated material or equipment.

Neither the approval by the Engineer of alternate material or equipment as being equivalent to that specified nor the furnishing of the material or equipment specified, shall in any way relieve the Contractor of responsibility for failure of the material or equipment, due to faulty design, material, or workmanship, to perform the functions required of them by the Specifications.

G-4.06 DELIVERY
The Contractor shall deliver materials in ample quantities to insure the most speedy and uninterrupted progress of the work so as to complete thw work within the allotted time. The Contractor shall also coordinate deliveries in order to avoid a delay in, or impediment of, the progress of the work of any related Contractor.

G-4.07 CARE AND PROTECTION
The Contractor shall be solely responsible for properly storing and protecting all materials, equipment, and work furnished under the Contract from the time such materials and equipment are delivered at the site of the work until final acceptance thereof. He shall, at all times, take necessary precautions to prevent injury or damage by water, freezing, or by inclemencies of the weather to such materials, equipment and work. All injury or damage to materials, equipment, or work resulting from any cause whatsoever shall be made good by the Contractor.

The Engineer shall, in all cases, determine the portion of the site to be used by the Contractor for storage, plant or for other purposes. If, however, it becomes necessary to remove and restack materials to avoid impeding the progress of any part of the work or interference with the work to be done by any other Contractor, the Contractor shall remove and restack such materials at his own expense.

G-4.08 TOOLS AND ACCESSORIES
The Contractor shall, unless otherwise stated in the Contract Documents, furnish with each type, kind or size of equipment, one complete set of suitably marked high grade special tools and appliances which may be needed to adjust, operate, maintain, or repair the equipment. Such tools and appliances shall be furnished in approved painted steel cases, properly labeled and equipped with good grade cylinder locks and duplicate keys.

Spare parts shall be furnished as specified.

Each piece of equipment shall be provided with a substantial nameplate, securely fastened in place and clearly inscribed with the manufacturer's name, year of manufacture, serial number, weight and principal rating data.

G-4.09 INSTALLATION OF EQUIPMENT
The Contractor shall have on hand sufficient proper equipment and machinery of ample capacity to facilitate the work and to handle all emergencies normally encountered in work of this character.

Equipment shall be erected in a neat and workmanlike manner on the foundations at the locations and elevations shown on the Plans, unless directed otherwise by the Engineer during installation. All equipment shall be correctly aligned, leveled and adjusted for satisfactory operation and shall be installed so that proper and necessary connections can be made readily between the various units.

The Contractor shall furnish, install and protect all necessary anchor and attachment bolts and all other appurtenances needed for the installation of the devices included in the equipment specified. Anchor bolts shall be as approved by the Engineer and made of ample size and strength for the purpose intended. Substantial templates and working drawings for installation shall be furnished.

The Contractor shall, at his own expense, furnish all materials and labor for, and shall properly bed in non-shrink grout, each piece of equipment on its supporting base that rests on masonry foundations. Grout shall completely fill the space between the equipment base and the foundation.

G-4.10 OPERATING INSTRUCTIONS
The Contractor, through qualified individuals, shall adequately instruct designated employees of the City in the operation and care of all equipment installed hereunder, except for equipment that may be furnished by the City.

The Contractor shall also furnish and deliver to the Engineer three complete sets for permanent files, identified in accordance with Subsection G-3.01 hereof, of instructions, technical bulletins and any other printed matter, such as diagrams, prints or drawings, containing full information required for the proper operation, maintenance, and repair, of the equipment installed and the ordering of spare parts, except for equipment that may be furnished by the City.

In addition to the above three copies, the Contractor shall furnish any additional copies that may be required for use during construction and start-up operations.

G-4.11 SERVICE OF MANUFACTURER'S ENGINEER
The Contract prices for equipment shall include the cost of furnishing a competent and experienced engineer or superintendent who shall represent the manufacturer and shall assist the Contractor, when required, to install, adjust, test and place in operation the equipment in conformity with the Contract Documents. After the equipment is placed in

permanent operation by the City, such engineer or superintendent shall make all adjustments and tests required by the Engineer to provide that such equipment is in proper and satisfactory operating condition, and shall instruct such personnel as may be designated by the City in the proper operation and maintenance of such equipment.

SECTION 5
INSPECTION AND TESTING

G-5.01 GENERAL
The Contractor's attention is hereby directed to Article 3.03 of the Agreement.

Inspection and testing of materials will be performed by the City unless otherwise specified.

For tests specified to be made by the Contractor, the testing personnel shall make the necessary inspections and tests and the reports thereof shall be in such form as will facilitate checking to determine compliance with the Contract Documents. Five copies of the reports shall be submitted and authoritative certification thereof must be furnished to the Engineer as a prerequisite for the acceptance of any material or equipment.

If, in the making of any test of any material or equipment, it is ascertained by the Engineer that the material or equipment does not comply with the Contract, the Contractor will be notified thereof and he will be directed to refrain from delivering said material and equipment, or to remove it promptly from the site or from the work and replace it with acceptable material, without cost to the City.

Tests of electrical and mechanical equipment and appliances shall be conducted in accordance with recognized test codes of the ANSI, ASME, or the IEEE, except as may otherwise be stated herein.

The Contractor shall be fully responsible for the proper operation of equipment during tests and instruction periods and shall neither have nor make any claim for damage which may occur to equipment prior to the time when the City formally takes over the operation thereof.

G-5.02 COSTS
All inspection and testing of materials furnished under this Contract will be performed by the City or duly authorized inspection engineers or inspection bureaus without cost to the Contractor, unless otherwise expressly specified.

The cost of shop and field tests of equipment and of certain other tests specifically called for in the Contract Documents shall be borne by the Contractor and such costs shall be deemed to be included in the contract price.

Materials and equipment submitted by the Contractor as the equivalent to those specifically named in the Contract may be tested by the City for compliance. The Contractor shall reimburse the City for the expenditures incurred in making such tests on materials and equipment which are rejected for noncompliance.

G-5.03 INSPECTIONS OF MATERIALS
The Contractor shall give notice, in writing to the Engineer, sufficiently in advance of his intention to commence the manufacture or preparation of materials especially manufactured or prepared for use in or as part of the permanent construction. Such notice shall contain a request for inspection, the date of commencement and the expected date of completion of the manufacture or preparation of materials. Upon receipt of such notice the Engineer will arrange to have a representative present at such times during the manufacture as may be necessary to inspect the materials or he will notify the Contractor that inspection will be made at a point other than the point of manufacture, or he will notify the Contractor that inspection will be waived. The Contractor must comply with these provisions before shipping any material. Such inspection shall not release the Contractor from the responsibility for furnishing materials meeting the requirements of the Contract Documents.

G-5.04 CERTIFICATE OF MANUFACTURE
When inspection is waived or when the Engineer so requires, the Contractor shall furnish to him authoritative evidence in the form of Certificates of Manufacture that the materials to be used in the work have been manufactured and tested in conformity with the Contract Documents. These certificates shall be notarized and shall include copies of the results of physical tests and chemical analyses, where necessary, that have been made directly on the product or on similar products of the manufacturer.

G-5.05 SHOP TESTS OF OPERATING EQUIPMENT
Each piece of equipment for which pressure, duty, capacity, rating, efficiency, performance, function, or special requirements are specified shall be tested in the shop of the maker in a manner which shall conclusively prove that its characteristics comply fully with the requirements of the Contract Documents. No such equipment shall be shipped to the work until the Engineer notifies the Contractor, in writing, that the results of such tests are acceptable.

Five copies of the manufacturer's actual test data and interpreted results thereof, accompanied by a certificate of authenticity sworn to by a responsible official of the manufacturing company, shall be forwarded to the Engineer for approval.

The cost of the shop tests and of furnishing manufacturer's preliminary and shop test data of operating equipment shall be borne by the Contractor.

G-5.06 PRELIMINARY FIELD TESTS
As soon as conditions permit, the Contractor shall furnish all labor, materials, and instruments and shall make preliminary field tests of equipment. If the preliminary field tests disclose any equipment furnished under this Contract which does not comply with the requirements of the Contract Documents, the Contractor shall, prior to the acceptance tests, make all changes, adjustments, and replacements required.

G-5.07 FINAL FIELD TESTS
Upon completion of the work and prior to final payment, all equipment and appliances installed under this Contract shall be subjected to acceptance tests as specified or required to prove compliance with the Contract Documents.

The Contractor shall furnish labor, fuel, energy, water and all other materials, equipment, and instruments necessary for all acceptance tests, at no additional cost to the City.

G-5.08 FAILURE OF TESTS
Any defects in the materials and equipment or their failure to meet the tests, guarantees or requirements of the Contract Documents shall be promptly corrected by the Contractor by replacements or otherwise. The decision of the Engineer as to whether or not the Contractor has fulfilled his obligations under the Contract shall be final and conclusive. If the Contractor fails to make those corrections or if the improved materials and equipment, when tested, shall again fail to meet the guarantees or specified requirements, the City, notwithstanding its partial payment for work, and materials and equipment, may reject the materials and equipment and may order the Contractor to remove them from the site at his own expense.

In case the City rejects any materials and equipment, then the Contractor shall replace the rejected materials and equipment within a reasonable time. If he fails to do so, the City may, after the expiration of a period of thirty calendar days after giving him notice in writing, proceed to replace such rejected materials and equipment, and the cost thereof shall be deducted from any compensation due or which may become due the Contractor under this Contract.

The City agrees to obtain other equipment within a reasonable time and the Contractor agrees that the City may use the equipment furnished by him without rental or other charges until the new equipment is obtained.

Materials or work in place that fails to pass acceptability tests shall be retested at the direction of the construction engineer all such retests shall be at the Contractor's expense. The rates charged shall be in accordance with the Department of Public Works current annual inspection contract which is available for inspection at the offices of the Department of Public Works.

G-5.09 FINAL INSPECTION
The procedures for final inspection shall be in accordance with the provisions of Article 4.07 of the Agreement. During such final inspections, the work shall be clean and free from water. In no case will the final estimate be prepared until the Contractor has complied with all the requirements set forth and the Engineer has made his final inspection of the entire work and is satisfied that the entire work is properly and satisfactorily cosntructed in accordance with the requirements of the Contract Documents.

SECTION 6

TEMPORARY STRUCTURES

G-6.01 GENERAL
All false work, scaffolding, ladders, hoistways, braces, pumping plants, shields, trestles, roadways, sheeting, centering forms, barricades, drains, flumes, and the like, any of which may be needed in the construction of any part of the work and which are not herein described or specified in detail, must be furnished, maintained and removed by the Contractor, and he shall be responsible for the safety and efficiency of such works and for any damages that may result from their failure or from their improper construction, maintenance, or operation.

G-6.02 PUBLIC ACCESS
At all points in the work where public access to any building, house, place of business, public road, or sidewalk would be obstructed by any action of the Contractor in executing the work required by this Contract, the Contractor shall provide such temporary structure, bridges or roadway as may be necessary to maintain public access at all times. At least one lane for vehicular traffic shall be maintained in streets in which the Contractor is working. Street closure permits are required from the Department of Public Works.

The Contractor shall provide suitable temporary bridges, as directed by the Engineer, at street intersections when necessary for the maintenance of vehicular and pedestrian traffic.

Prior to temporarily cutting of access to driveways and garages, the Contractor shall give twelve (12) hours notice to affected property owners. Interruptions to use of private driveways shall be kept to a minimum.

G-6.03 CONTRACTOR'S FIELD OFFICE
The Contractor shall erect, furnish and maintain a field office with a telephone at the site during the entire period of construction. He or an authorized agent shall be present at this office at all times while his work is in progress. Readily accessible copies of both the Contract Documents and the latest approved working drawings shall be kept at this field office.

G-6.04 TEMPORARY FENCE
If, during the course of the work, it is necessary to remove or disturb any fence or part thereof, the Contractor shall, at his own expense, if so ordered by the Engineer, provide a suitable temporary fence which shall be maintained until the permanent fence is replaced. The Engineer shall be solely responsible for the determination of the necessity for providing a temporary fence and the type of temporary fence to be used.

G-6.05 RESPONSIBILITY FOR TEMPORARY STRUCTURES
In accepting the Contract, the Contractor assumes full responsibility for the sufficiency and safety of all temporary structures or work and for any damage which may result from their failure or their improper construction, maintenance, or operation and will indemnify and save harmless the City from

all claims, suits or actions and damages or costs of every description arising by reason of failure to comply with the above provisions.

SECTION 7
TEMPORARY SERVICES

G-7.01 WATER
The Contractor shall provide the necessary water supply at his own expense. He shall, if necessary, provide and lay necessary waterlines from existing mains to the place of using, shall secure all necessary permits and pay for all taps to water mains or hydrants and for all water used at the established rates.

G-7.02 LIGHT AND POWER
The Contractor shall provide, at his own expense, temporary lighting and power facilities required for the proper prosecution and inspection of the work. If, in the opinion of the Engineer, these facilities are inadequate, the Contractor will not be permitted to proceed with any portion of the work affected thereby.

G-7.03 SANITARY REGULATIONS
The Contractor shall prohibit and prevent the committing of nuisances on the site of the work or on adjoining property and shall discharge any employee who violates this rule.

Ample washrooms and toilet facilities and a drinking water supply shall be furnished and maintained in strict conformity with the law by the Contractor for use by his employees.

G-7.04 ACCIDENT PREVENTION
Precautions shall be exercised at all times for the protection of persons and property. The safety provisions of applicable laws, building and construction codes shall be observed. The Contractor shall comply with the U. S. Department of Labor Safety and Health Regulations for construction promulgated under the Occupational Safety and Health Act of 1970 (PL 91-596), and under Section 107 of the Contract Work. Hours and Safety Standards Act (PL 91-54), except where state and local safety standards exceed the federal requirements and except where state safety standards have been approved by the Secretary of Labor in accordance with provisions of the Occupational Safety and Health Act.

G-7.05 FIRST AID
The Contractor shall keep upon the site, at each location where work is in progress, a completely equipped first aid kit and shall provide ready access thereto at all times when men are employed on the work.

G-7.06 HEATING
The Contractor shall provide temporary heat, at his own expense, whenever required on account of work being carried on during cold weather and to prevent freezing of water pipes and other damage to the work.

SECTION 8
LINES AND GRADES

G-8.01 GENERAL
All work done under this Contract shall be constructed in accordance with the lines and grades shown on the Plans, or as given by the Engineer. The full responsibility for keeping alignment and grade shall rest upon the Contractor.

The Engineer will establish bench marks and base line controlling points. Reference remarks for lines and grades as the work progresses will be located to cause as little inconvenience to the prosecution of the work as possible. The Contractor shall so place excavation and other materials as to cause no inconvenience in the use of the use of the reference marks provided. He shall remove any obstructions placed by him contrary to this provision.

G-8.02 SURVEYS
The Contractor shall furnish and maintain, at his own expense, stakes and other such materials, and give such assistance, including qualified helpers, as may be required by the Engineer for setting reference marks. The Contractor shall check such reference marks by such means as he may deem necessary and, before using them, shall call the Engineer's attention to any inaccuracies. The Contractor shall, at his own expense, establish all working or construction lines and grades as required from the reference marks set by the Engineer, and shall be solely responsible for the accuracy thereof. He shall, however, be subject to the check and review of the Engineer.

The Contractor shall keep the Engineer informed a reasonable time in advance as to his need for line and grade reference marks, in order that they may be furnished and all necessary measurements made for record and payment with the minimum of inconvenience to the Engineer or of delay to the Contractor.

It is the intention not to delay the work for the establishment of reference marks but, when necessary, working operations shall be suspended for such reasonable time as the Engineer may require for this purpose.

G-8.03 SAFEGUARDING MARKS
The Contractor shall safeguard all points, stakes, grade marks, monuments and bench marks made or established on the work, bear the cost of reestablishing them if disturbed, and bear the entire expense of rectifying work improperly installed due to not maintaining or protecting or to removing without authorization such established points, stakes and marks.

The Contractor shall safeguard all existing and known property corners, monuments and marks adjacent to but not related to the work and, if required, shall bear the cost of reestablishing them if disturbed or destroyed.

G-8.04 DATUM PLANE
All elevations indicated or specified refer to the Mean Sea Level Datum of the U.S.C. & G.S. (N.O.S.) which is 0.80 feet above the Mean Low Water Datum of the U. S. Army

Corps of Engineers.

SECTION 9
ADJACENT STRUCTURES AND LANDSCAPING

G-9.01 RESPONSIBILITY
The responsibility for removal, replacement, relocation, repair, rebuilding or protection of all public utility installations, including poles, tracks, pipes, wires, conduits, house service connections, vaults, manholes, sewers, traffic control and fire alarm signal circuit installations and other appurtenances and facilities shall be in accordance with G-1.02 and G-1.03.

The Contractor shall also be entirely responsible and liable for all damage or injury as a result of his operations to all other adjacent public and private property, structures of any kind and appurtenances thereto met with during the progress of the work. The cost of protection, replacement in their original locations and conditions or payment of damages for injuries to such adjacent public and private property and structures affected by the work, whether or not shown on the Plans, and the removal, relocation, and reconstruction of such items called for on the Plans or specified shall be included in the various Contract Items and no separate payment will be made therefor. Where such public and private property, structures of any kind and appurtenances thereto are not shown on the Plans and when, in the opinion of the Engineer, removal or relocation and reconstruction is necessary to avoid interference with the work, payment therefor will be made as provided for extra work in Article 7.02 of the Agreement.

G-9.02 PROTECTION OF TREES
All trees and shrubs shall be adequately protected by the Contractor with boxes or otherwise and, within the City of Tampa, in accordance with ordinances governing the protection of trees. No excavated materials shall be placed so as to injure such trees or shrubs. Trees or shrubs destroyed by negligence of the Contractor or his employees shall be replaced by him with new stock of similar size and age, at the proper season, and at the sole expense of the Contractor.

Beneath trees or other surface structures, where possible, pipelines may be built in short tunnels, backfilled with excavated materials, except as otherwise specified, or the trees or structures carefully supported and protected from damage.

The City may order the Contractor, for the convenience of the City, to remove trees along the line of trench excavation. If so ordered, the City will obtain any permits required for removal of trees. Such tree removal ordered shall be paid for under the appropriate Contract Items.

G-9.03 LAWN AREAS
Lawn areas shall be left in as good condition as before the starting of the work. Where sod is to be removed, it shall be carefully removed and later replaced, or the area where sod has been removed shall be restored with new sod in the manner described in the Technical Specifications section.

G-9.04 RESTORATION OF FENCES
Any fence, or part thereof, that is damaged or removed during the course of the work shall be replaced or repaired by the Contractor and shall be left in as good a condition as before the starting of the work. The manner in which the fence is repaired or replaced and the materials used in such work shall be subject to the approval of the Engineer. The cost of all labor, materials, equipment, and work for the replacement or repair of any fence shall be deemed included in the appropriate Contract Item or Items, or if no specific Item is provided therefor, as part of the overhead cost of the work, and no additional payment will be made therefor.

SECTION 10
PROTECTION OF WORK AND PUBLIC

G-10.01 TRAFFIC REGULATIONS
The Contractor shall arrange his work to comply with Article G-6.02. The work shall be done with the least possible inconvenience to the public and to that end the work may be confined by the Engineer to one block at a time.

G-10.02 BARRIERS AND LIGHTS
During the prosecution of the work, the Contractor shall put up and maintain at all times such barriers, and lights, as will effectually prevent accidents. The Contractor shall provide suitable barricades, red lights, "danger" or "caution" or "street closed" signs and watchmen at all places where the work causes obstructions to the normal traffic or constitutes in any way a hazard to the public. Such barriers and signs shall be constructed to State of Florida Department of Transportation standards and placed as recommended by the Traffic Division of the City's Department of Public Works.

No open fires will be permitted.

G-10.03 SMOKE PREVENTIONS
The Contractor shall use hard coal, coke, oil or gas as fuel for equipment generating steam. A strict compliance with ordinances regulating the production and emission of smoke will be required.

G-10.04 NOISE
The Contractor shall eliminate noise to as great an extent as practicable at all times. Air compressing plants shall be equipped with silencers and the exhaust of all gasoline motors or other power equipment shall be provided with mufflers. In the vicinity of hospitals and schools, special care shall be used to avoid noise or other nuisances. The Contractor shall strictly observe all local regulations and ordinances covering noise control.

Except in the event of an emergency, no work shall be done between the hours of 7:00 p.m. and 7:00 a.m., or on Sundays. If the proper and efficient prosecution of the work requires operations during the night, the written permission of the Engineer shall be obtained before starting such items of the work.

G-10.05 ACCESS TO PUBLIC SERVICES
Neither the materials excavated nor the materials or plant used in the construction of the work shall be so placed as to prevent free access to all fire hydrants, valves or manholes.

G-10.06 DUST PREVENTION
The Contractor shall prevent dust nuisance from his operations or from traffic by keeping the streets sprinkled with water at all times.

G-10.07 PRIVATE PROPERTY
The Contractor shall so conduct the work that no equipment, material, or debris will be placed or allowed to fall upon private property in the vicinity of the work unless he shall have obtained the owner's written consent thereto and shall have shown this consent to the Engineer.

SECTION 11
SLEEVES AND INSERTS

G-11.01 COORDINATION
When the Contract requires the placing of conduits, saddles, boxes, cabinets, sleeves, inserts, foundation bolts, anchors, and other like work in floors, roofs, or walls of buildings and structures, they shall be promptly installed in conformity with the construction program. The Contractor who erects the floors, roofs, and walls shall facilitate such work by fully cooperating with the Contractors responsible for installing such appurtenances. The Contractor responsible for installing such appurtenances shall arrange the work in strict conformity with the construction schedule and avoid interference with the work of other contractors.

G-11.02 OPENINGS TO BE PROVIDED
In the event timely delivery of sleeves and other materials cannot be made and to avoid delay, the affected Contractor may arrange to have boxes or other forms set at the locations where the appurtenances are to pass through or into the floors, roofs, walls, or other work. Upon the subsequent installation of these appurtenances, the Contractor erecting the structure shall fill around them with materials as required by the Contract. The necessary expenditures incurred for the boxing out and filling in shall be borne by the Contractor or Contractors required to furnish the sleeves and inserts. Formed openings and later installation of sleeves will not be permitted at locations subject to hydrostatic pressure.

SECTION 12
CUTTING AND PATCHING

G-12.01 GENERAL
The Contractor shall do all cutting, fitting, or patching of his portion of the work that may be required to make the several parts thereof join and coordinate in a manner satisfactory to the Engineer and in accordance with the Plans and Specifications. The work must be done by competent workmen skilled in the trade required by the restoration.

SECTION 13
CLEANING

G-13.01 DURING CONSTRUCTION
During construction of the work, the Contractor shall, at all times, keep the site of the work and adjacent premises as free from material, debris, and rubbish as is practicable and shall remove the same from any portion of the site if, in the opinion of the Engineer, such material, debris, or rubbish constitutes a nuisance or is objectionable.

The Contractor shall remove from the site all of his surplus materials and temporary structures when no further need therefor develops.

G-13.02 FINAL CLEANING
At the conclusion of the work, all erection plant, tools, temporary structures and materials belonging to the Contractor shall be promptly taken away, and he shall remove and promptly dispose of all water, dirt, rubbish or any other foreign substances.

The Contractor shall thoroughly clean all equipment and materials installed by him and shall deliver such materials and equipment undamaged in a bright, clean, polished, and new appearing condition.

SECTION 14
MISCELLANEOUS

G-14.01 PROTECTION AGAINST SILTATION AND BANK EROSION
The Contractor shall arrange his operations to minimize siltation and bank erosion on construction sites and on existing or proposed watercourses and drainage ditches.

G-14.02 EXISTING FACILITIES
The work shall be so conducted to maintain existing facilities in operation insofar as is possible. Work shall be scheduled to minimize bypassing during construction. Requirements and schedules of operations for maintaining existing facilities in service during construction shall be as described in the Special Provisions.

G-14.03 USE OF CHEMICALS
All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or of other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in strict conformance with instructions.

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SPECIFIC PROVISIONS

SP-1.01 DPW TECHNICAL SPECIFICATIONS:

Florida Department of Transportation Standard Specifications for Road and Bridge Construction dated 2010 or latest shall be incorporated for construction and materials.

The following hierarchy of the contract documents shall apply:

The DPW Technical Specifications shall govern, except as noted herein.

In the case of apparent conflict with the project plans, the Specific Provisions shall govern.

SP-2.01 BID ITEMS:

It is the intent of these Contract Documents that any items of work and all costs for which compensation is not directly provided by a bid item but are incidental to various project items of work, shall be prorated and included in the bid item for which they are required. Failure of the Contractor to follow this procedure shall be basis for rejection of its bid.

SP-2.02 WORK DIRECTIVE CHANGE:

A Work Directive Change is a written directive to the Contractor, issued on or after the date of the execution of the Agreement, and signed by the Engineer on behalf of the City, ordering an addition, deletion or revision in the work, or responding to an emergency. A Work Directive Change will not change the contract price or the time for completion, but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the contract price or the time of completion.

Without invalidating the Agreement, certain additions, deletions or revisions in the work may, at any time or from time to time, be authorized by a Change Order or a Work Directive Change. Upon receipt of any such document, the Contractor shall promptly proceed with the work involved.

SP-2.03 LINES AND GRADES:

The General Provisions Section G-8.01 and G-8.02 are revised to read as follows:

G-8.01 General:

All work done under this contract shall be constructed in accordance with the lines and grades as shown on the plans or as directed by the Engineer. The full responsibility for keeping alignment and grade shall rest upon the Contractor.

The Engineer will establish Bench Marks and baseline controlling points only.

G-8.02 Surveys:

The Contractor shall furnish and maintain, with no additional payment, stakes and other such material as may be required for setting reference marks; and shall, with no additional payment, establish all

working or construction lines and grades as required from the reference marks set by the Engineer, and shall be solely responsible for the accuracy thereof. The Contractor shall, however, be subject to the check and review of the Engineer.

Pay items requiring survey information, such as embankment or excavation, shall be documented by a land surveyor registered in the State of Florida. In addition, plotted cross sections and quantity computations must be supplied and certified. All surveys shall be in accordance with the "City of Tampa Department of Public Works Specifications and Note Keeping Standards for Surveys", available from the City of Tampa, Department of Public Works, City Hall Plaza Building, Tampa, Florida 33602.

SP-2.04 REQUIREMENTS FOR CONTROL OF THE WORK:

Prior to the start of the work included in this contract, a Preconstruction Conference will be held by the Engineer to be attended by the Contractor and representatives of the various utilities and others for the purpose of establishing a schedule of operations which will coordinate the work to be done under this contract with all related work to be done by others within the limits of the project. The Contractor shall be prepared for this meeting and shall present a comprehensive construction schedule for all items of work to be accomplished, which will be used as the basis for the development of an overall operational schedule and a list of subcontractors and material suppliers to be used on this work.

All items of work in this contract shall be coordinated so that progress on each related work item will be continuous from week to week. The progress of the work will be reviewed by the Engineer at the end of each week, and if the progress on any item of work during that week is found to be unsatisfactory, the Contractor shall be required to adjust the rate of progress on that item or other items as directed by the Engineer.

The Contractor shall conduct operations in such a manner as will result in the minimum of inconvenience to occupants of adjacent homes and business establishments and shall provide temporary access as directed or as conditions in any particular location may require.

Access to adjacent residential, public and commercial properties shall be provided at all times during the contract period.

The Contractor shall restore to its previous condition as directed by the Engineer any private property, City property, or utilities damaged by its construction. No payment shall be made to the Contractor for any required restoration of private property, City property or utilities, unless otherwise noted.

SP-2.05 REFERENCE STAKES:

Add the following paragraph to General Provision Section G-8.03:

For landside construction, the Contractor shall, with no additional payment, furnish and install reference stakes at all even and half-stations along the project survey baseline.

These stakes shall be maintained for the duration of construction for the purpose of the Engineer's reference.

SP-2.06 CONTRACTOR'S WEEKLY SCHEDULE:

In order that the Department of Public Works personnel may be advised of the work to be performed, the Contractor may be required to submit weekly to the Engineer of its designated representative a schedule indicating the proposed

work plan for the forthcoming three weeks. Such shall be delivered to the Engineer not later than Friday preceding the work plan week unless other arrangements have been made for this submittal.

SP-2.07 MONTHLY CONSTRUCTION ESTIMATES AND RELEASE OF LIEN:

The Contractor shall prepare on or about the first day of each month an estimate of the work completed in the preceding month. Said estimate shall be prepared on standard forms provided by the Engineer, and three (3) signed originals shall be provided by the Contractor. Any disputed quantities shall be adjusted as directed by the Engineer prior to each partial payment, as provided for in Article 10.05 of the Agreement.

Certification that all subcontractors have been paid for the previous month's work shall be submitted with each partial payment request on forms provided by the Engineer.

A project progress schedule shall be submitted with each partial payment request.

SP-2.08 CONTRACTOR'S REPRESENTATIVE:

Add to Article 8.02 of the Agreement:

> "The Contractor shall submit in writing to the Construction Engineer the name of its duly authorized representative who will be present on the job during all work activities and is authorized to make decisions for the Contractor. Any change in the contractor's representative shall require written notification to the Construction Engineer prior to such change".

SP-2.11 ENGINEERING'S FIELD OFFICE:

In accordance with Section 101, Mobilization, paragraph 101-3 of the Technical Specifications the Contractor shall provide and maintain a separate and adequate field office for the use of the Construction Engineer and Engineering Technicians within the project limits. No additional payment will be made for this item.

The sum of $50.00 per calendar day for each day that the construction is in progress without the Engineer's field office being furnished and completely equipped per Section 101-3 of the Technical Specifications shall be deducted from monies due to the Contractor.

This section shall also include the requirement that the office door shall be equipped with a padlock hasp.

SP-2.12 DAMAGE TO ADJACENT STREETS:

Any streets (including detour routes) consisting of travel lanes, curbs, gutters and shoulders, outside the project area (not designated for construction), which are determined by the Engineer to have been damaged due to negligent construction related operations and/or equipment, shall be restored by the Contractor to its original or better condition without any cost to the City and to the satisfaction of the Engineer.

SP-2.13 PROJECT PHOTOGRAPHS:

The Contractor will not be required to furnish photographs of the project; however, the Engineer may or may not take photographs of the area immediately prior to and after completion of the construction for record and information. To assure that there will not be any conflict with this photography, the Contractor shall not perform clearing operations or

actions which will disturb any street or area within the project until the Engineer has been advised thereof and has had adequate opportunity to perform the desired photography.

SP-2.14 PRECONSTRUCTION VIDEO:

Prior to commencing work, the Contractor shall submit to the Engineer for approval, a DVD containing a continuous color video recording including complete coverage of pre-construction conditions of all surface features within the construction's zone of influence, (including detour routes) simultaneously produced audio commentary and electronic display of time and date. The video recording shall be sufficient to fulfill the technical and forensic requirements of the project and provide continuous unedited coverage, establishing locations and viewer orientation with clear, bright, steady and sharp video images with accurate colors free of distortion or other imperfections. The DVD must be accompanied by a detailed log of its contents including date, locations, video counter numbers and features. No work shall be allowed until the completed DVD and log are approved by the Engineer.

Payment for this work shall be made under:

SP-2.14 Preconstruction Video L.S.

SP-2.15 PROJECT CLEAN-UP:

Clean-up on this project is extremely important and the Contractor will be responsible for keeping the construction site neat and clean with debris being removed regularly as the work progresses or at the direction of the Engineer.

If project cleanliness and/or dust control reaches an unacceptable level in the opinion of the Engineer, the Engineer will notify the Contractor in writing. If the Contractor does not act to correct the situation within 4 hours in the case of dust control or within 24 hours in the case of general cleanliness, the Engineer may call upon outside forces to provide the appropriate services. Cost of all such activities shall be charged to the Contractor via contract change order.

SP-2.16 PERMITS AND FEES:

The Contractor shall be responsible for obtaining all applicable City permits for this project. These can include but may not be limited to: Right-of-way permit(s), tree removal/site clearing permit(s), and drainage/earthwork permit(s). The Contractor shall supply any required plans or other information to the issuing department.

The time required to prepare, submit, review, and issue the permits shall be included in the contract time and no payment shall be made for any delay incurred by this process.

Cost associated obtaining City permits shall be included in the lump sum cost for mobilization (Item No. 101-1), and no separate payment shall be made. Right-of-way permit fee shall be waived by the City.

All subcontractors working on the project shall obtain their own, separate permits as above.

SP-2.17 AS-BUILT PLANS:

The Contractor shall provide the Engineer with "As-Built" plans, as follows:

1. All as-built information shall be annotated by the Contractor on a separate layer of an AutoCAD drawing provided on diskette by the City. Annotation shall be performed according to City DPW drafting standards. Settings shall be as follows: Color: Red; Line type: Continuous; Font: Romans; Layer Name: AS-BUILT; AutoCAD Menu Name: ACAD.MNU; File Format: AutoCAD Release 12.

2. As-built information shall be supported by survey data certified by a Professional Land Surveyor registered in the State of Florida. Survey data shall be submitted by the Contractor as electronic data (EFB/CAiCE) or as hand notes meeting the City's Standards for Survey Note Keeping.

3. All locations of storm and sanitary sewer structures and pipes must be clearly shown on plans with as-built stations and offsets verified. All as-built inverts for the entire project must be clearly noted on the plan sheet files. All deviations from plan roadway horizontal and vertical alignment values must also be clearly noted.

4. The Contractor shall comply with the above requirements and shall return one check print set of the plans at the same scale as the construction plans and annotated diskette(s) to the Engineer for review within three weeks of substantial completion of the project. Final payment for the project shall not be made until the as-built information is received and approved by the Engineer. Upon approval, the Contractor shall provide one set of final redline, the construction plans, and an updates CADD file on disk. No separate payment for meeting the above as-built requirements shall be made.

SP-4.03 SOIL BORING INFORMATION:

Soil boring information is included in these Specifications.

The City of Tampa will not be responsible for the accuracy of the borings. The Contractor shall be responsible for obtaining any additional soils information, at the Contractor's cost prior to submitting a bid.

SP-4.04 TEMPORARY STOCKPILING:

Temporary stockpiling of the excavated material is not allowed within project limits.

SP-4.05 DEWATERING:

Any dewatering related to this project will not be a separate bid item. The cost shall be included in the price of the facility being installed at that location and/or any related pay items.

SP-5.01 UTILITY PROTECTION CONSIDERATIONS:

The Contractor shall protect all utilities and other facilities within and adjacent to the construction as covered in Section G-1.03, unless a utility firm has conclusively indicated, or such is shown on the plans, that the certain adjustment, removal, reconstruction, or protection of the utility's facility will be performed by that respective utility.

The Contractor shall make every effort to protect all water mains. If the main is damaged or lost, the Contractor shall replace the affected line in strict accordance with the City of Tampa Water Department Specifications and Construction Standards, latest, edition, at no extra cost to the City, and he shall assure that service is maintained at all times.

The Contractor shall make every effort to protect all sanitary sewer lines. If the main is damaged or lost, the Contractor shall replace the affected line in strict accordance with the City of Tampa Department of Sanitary Sewer Specifications and Construction Standards, latest edition, at no extra cost to the City.

It will be the Contractor's responsibility to preserve all existing sanitary sewer services without interruption during the construction of storm sewers or the repairs or reconstruction of sanitary sewers. When the construction of storm

sewers and/or repair or reconstruction of sanitary sewers has been completed, all temporary connections shall be removed. Sewers shall be cleaned of all settled solids.

The cost of handling sanitary sewers during construction, including cost of all labor, materials, and equipment or other items incidental to completing the job, shall be included in the contract price as bid for the contract items and no separate payment shall be made.

It will be the Contractors responsibility to preserve all existing ditches, swales, force main, gravity main, laterals, etc., and other stormwater appurtenances and facilities pertaining thereto whether owned or controlled by City, other governmental bodies or privately owned by individuals, firms or corporations.

Any temporary measures constructed shall first be approved by the Engineer. The cost of such temporary measures shall be included in the contract price bid for storm sewer items and no separate payment shall be made.

The Contractor shall furnish, install, and remove sheeting and shoring and other protective measures as may be necessary to satisfactorily accomplish the construction of this project. The cost of such sheeting and shoring and other protective measures shall be included in the unit prices as bid for the storm sewer items and no separate payment shall be made.

SP-8.02 ENVIRONMENTAL PROTECTION:

The Contractor will be held liable for the violation of any and all environmental regulations. Violation citations carry civil penalties and in the event of willful violation, criminal penalties. The fact that the permits are issued to the City does not relieve the Contractor in any way of its environmental obligations and responsibilities.

All signage shall be installed in accordance with the Florida Department of Environmental Protection and Army Corps of Engineers permits including, manatee education, manatee awareness and temporary mooring signage.

SP-8.10 EROSION CONTROL PLAN:

In addition to the requirements of Section 104, the Contractor shall be required to submit an erosion control plan to the Engineer at the time of the preconstruction conference. The erosion control plan shall indicate in detail all measures proposed by the Contractor to meet its erosion control obligations, including all items required to meet permitting conditions for the project. Any phasing of the erosion control plan shall also be shown.

The cost of providing, revising and updating the erosion control plan shall be included in the unit costs of the various contract items and no separate payment shall be made.

Payment shall be made under: Use FDOT Pay-items where applicable

Item SP-8.10.1	Floating Turbidity Barrier	Per Linear Foot
Item SP-8.10.2	Staked Silt Fence	Per Linear Foot

SP-10.01 GRASSING AND/OR SODDING:

Lawn, road shoulders, and all areas that do not have well-established grass at the time of construction and are disturbed during construction may be grassed, as directed by the Engineer. All areas shall be properly prepared by removal of construction debris and rocks, and soil preparation and fertilization or placement of topsoil as directed by the Engineer. Lawn, road shoulders, and other locations where construction shall occur that are well maintained and

show healthy grass at the time of construction, or where otherwise directed by the Engineer, shall be sodded with either Pensacola or Argentine Bahia Type or St. Augustine type sod as applicable.

All areas that have a potential for being eroded by flowing surface water shall be sodded as directed by the Engineer, including 2 inches adjacent to the new pavement edges.

Payment shall be made under:

*Item No. 162-1	Grassing and/or Sodding	Per S.Y.

*Contingent Item

SP-10.05 TRANSPLANTING TREES:

The Contractor shall transplant the existing trees that conflict with the proposed walkway, in conformance with Section 580 of the specifications and as directed by the Engineer. The location of the tree(s) shall be designated by the Engineer upon the advice of the Parks Department.
The quantity to be paid for under this Section shall be the number of transplanted trees required as a condition for the issuance of the "Tree Removal Permit". Such payment shall be full compensation for furnishing materials, labor and all incidentals necessary to complete the work.

Payment shall be made under:

Item No. 580-327-1	Transplant Palm Tree	Per Each

SP-10.06 RESTORATION OF LANDSCAPING WITHIN RIGHT-OF-WAY:

The Contractor shall remove any shrubbery, trees less than 5 inches in diameter, other landscaping, walkways, planters, other landscaping, and irrigation systems which are in conflict with the proposed construction. These items shall be restored, relocated, and/or reconstructed as shown in the plans or as directed by the Engineer.

Cost of removing, restoring, relocating, and reconstructing the above items shall be included in the lump sum price for Clearing and Grubbing, and no separate payment shall be made.

SP-10.07 TREE PROTECTION:

Tree barricades shall be constructed and maintained at trees indicated on the plans as "to be protected" and/or as directed by the Engineer. Generally, barricades are to be placed a minimum of ten (10) feet from the trunk of each protected tree.

Barricades shall be constructed of commercially available pine lumber, as follows: Vertical members shall be 2" x 2" or larger, generally spaced 6’ 8”. Horizontal members shall consist of one (1) 1" x 4" board.

The Contractor shall provide the services of an approved licensed tree professional when it is necessary to trim or cut a branch from a tree.

Payment for tree protection and tree cutting or trimming shall be included in the lump sum price bid for mobilization and/or clearing and grubbing and no separate payment shall be made.

SP-10.10 LANDSCAPE INSTALLATION

The Contractor shall provide all labor, equipment and materials necessary to furnish and install plant material and mulch as shown on the "Landscape Plans". The work shall be in accordance with the City of Tampa Parks Department Specification Sections 02900, 02930 and 02945 that are made a part of these specifications.

Any costs associated with the work that is not directly provided for by the bid item, but incidental to completion of the Landscaping, shall be prorated and included in the various contract pay items, and not separated payment shall be made.

Payment shall be made under:

Item No. 999-2	Landscape Complete (1-Year Maintenance Included)	LS

SP-10.11 IRRIGATION SYSTEM CONSTRUCTION:

The Contractor shall provide application and related fees, service connections, coordination for irrigation meters, and all labor, equipment and materials necessary to construct irrigation systems as shown on the "Irrigation Plans". The exact locations of meters will be coordinated in the field. The work shall be in accordance with the City of Tampa Parks Department Specification Section 02440 that is made a part of these specifications. At the conclusion of the project, the meters will be transferred to the City of Tampa.

Payment shall be made under:

Item No. 590-70	Irrigation System	LS

SP-11.02 USE OF EXPLOSIVES:

Explosives will not be used on the work except when authorized by the Engineer. The use of same, if authorized, shall conform to laws or ordinances which may pertain to the use of same and the utmost care will be exercised by the Contractor so as not to endanger life or property. The Contractor will assume full responsibility in connection with use of any explosives even though authorized. Explosives will not be stored within the City limits.

SP-11.03 EXISTING PUBLIC FACILITIES:

Existing public facilities that are removed by construction operations under this contract shall be replaced by the Contractor to City of Tampa specifications. These items shall include all public benches, light poles, shelters, roadway signs, etc., and replacement of these items shall be considered incidental to the cost of construction and no separate payment will be made.

SP-11.04 METAL PRODUCTS:

All metal products incorporated into the project must be tested by and found to conform to applicable specifications by an approved private testing laboratory prior to use on the project. These acceptance reports must also be made available to the Construction Engineer and to be placed in its office file prior to use on the project.

SP-11.12 RESTORATION OF MONUMENTATION:

The Contractor shall, with no additional payment, re-establish any permanent survey or mapping monumentation which is disturbed or destroyed in the course of the construction project.

SP-11.16 CONTINGENCY ALLOWANCE:

Payment from the Contingency Allowance shall be made only at the direction of the Engineer under:

Item No. SP-11-16 Contingency Allowance L.S.

SP-12.01 METRICATION:

The Contractor may be required to convert plan units to and/or from metric units in order to comply with Florida Department of Transportation and City of Tampa conversions to the metric system.

No separate payment for conversion of units will be made.

SP-13.01 STANDARD MANATEE CONSTRUCTION CONDITIONS

The Contractor shall comply with the following Manatee Protection Construction Conditions:

a. The Contractor shall instruct all personnel associated with the project of the potential presence of manatees and the need to avoid collisions with manatees. All construction personnel are responsible for observing water-related activities for the presence of manatee(s) and shall implement appropriate precautions to ensure protection of the manatees.

b. The Contractor shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act of 1972, The Endangered Species Act of 1973, and the Florida Manatee Sanctuary Act. The Contractor may be held responsible for any manatee harmed, harassed, or killed as a result of neglect or intentional activities related to construction.

c. Siltation barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored at least daily to avoid manatee entrapment. Barriers must not block manatee entry or exit from essential habitat.

d. All vessels associated with the construction project shall operate at “no wake/idle” speeds at all times while in the construction area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.

e. If manatee(s) are seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure protection of the manatee. These precautions shall include the operation of all moving equipment no closer than 50 feet of a manatee. Operation of any equipment closer than 50 feet to a manatee shall necessitate immediate shutdown of that equipment. Activities will not resume until the manatee(s) has departed the project area of its own volition.

f. Any collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at 1-800-DIAL-FMP (1-800-342-5367). Collision and/or injury should also be reported to the

U.S. Fish and Wildlife Service in Jacksonville (1-904-232-2580) for North Florida or in Vero Beach (1-407-562-3909) in South Florida.

g. Temporary signs concerning manatees shall be posted prior to and during all construction/dredging activities. All signs are to be removed by the Contractor upon completion of the project. A sign measuring at least 3 ft. by 4 ft. which reads *Caution: Manatee Area* must be posted in a location prominently visible to water related construction crews. A second sign must be posted if vessels are associated with the construction, and should be placed visible to the vessel operator. The second sign should be at least 8½" by 11" which reads: *Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at 1-800-DIAL FMP (1-800-342-5367). The U.S. Fish and Wildlife Service should also be contacted in Jacksonville (1-904-232-2580) for North Florida or in Vero Beach (1-407-562-3909) for South Florida.*

h. The Contractor shall maintain a log detailing sightings, collisions, or injuries to manatees if they occur during the contract period. A report summarizing sightings and incidents shall be submitted to the Florida Fish and Wildlife Conservation Commission, Bureau of Protected Species Management, 630 South Meridian Street, Tallahassee, Florida 32399-1600 and to the U.S. Fish and Wildlife Service Office, 6620 South Point Drive South, Suite 310, Jacksonville, Florida 32216-0912. This report must be submitted annually or following the completion of the project if the contract period is less than one year. Contact the BPSM at (1-850-922-4330) if there are questions regarding these standard construction conditions.

i. At least one person shall be designated as a manatee observer when in-water work is being performed. The person shall have experience in manatee observation, and have polarized sunglasses to aid in observation. The manatee observer shall be on site during in-water construction activities and will advise personnel to cease operation upon sighting a manatee within fifty (50) feet. Movement of a work barge, other associated vessels, or in-water work should not be performed at night when the possibility of spotting manatees is negligible.

The cost of providing and maintaining instructions to construction employees and the fabrication and installation of Manatee Signage shall be included in the unit cost of various contract items and no separate payment shall be made.

TEMPORARY MANATEE SIGNS
For standard manatee construction conditions
Revised October 1996

The *Caution: Manatee Area* signs (3 feet by 4 feet), are available through the companies listed below and may also be available from other local suppliers throughout the state. The Contractor should contact sign companies directly to arrange for shipping and billing.

Cape Coral Signs & Designs, Inc.
1311 Del Prado Boulevard
Cape Coral, Florida 33990
1-800-813-9992
813-772-9992
FAX 813-772-9992

JADCO Signing, Inc.
309 Angle Road
Ft. Pierce, Florida 34947
561-489-8772
FAX 561-489-8757

Municipal Supply and Sign Company
Post Office Box 17
Naples, Florida 33939-1765
1-800-329-5366
813-262-4639
FAX 813-262-4645

Universal Signs & Accessories
2912 Orange Avenue
Ft. Pierce, Florida 34947
1-800-432-0331
407-461-0665
FAX 407-461-0669

A second sign must be used if vessels/barges will be used, should be at least 8½" by 11" and should read:

Caution: Manatee Habitat. Idle speed is required if operating a vessel in the construction area. All equipment must be shutdown if a manatee comes within 50 feet of operation. Any collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at 1-800-DIAL FMP (1-800-342-5367). The U.S. Fish and Wildlife Service should also be contacted in Jacksonville (1-904-232-2580) for North Florida or in Vero Beach (1-407-562-3909) for South Florida.

An example is enclosed. This example can be copied and used during construction activities.

Caution:
Manatee Habitat

Idle speed is required if operating a vessel in the construction area.

All equipment must be
SHUT DOWN
if a manatee comes within
50 feet of operation.

Any collision with and/or injury to a manatee shall be reported immediately to the Florida Marine Patrol at

1-800-DIAL FMP

(1-800-342-5367)

The U.S. Fish and Wildlife Service should also be contacted in Jacksonville (1-904-232-2580) for North Florida or in Vero Beach (1-407-562-3909) for South Florida.

SP-14.01 EXCAVATION FOR STRUCTURES & REMOVAL OF EXISTING STRUCTURES:

Excavations necessary for the construction of piles, slabs and foundations shall comply with Sections 125 and 455-1 of the FDOT Standard Specifications, as applicable.

Do not interrupt existing utilities serving occupied facilities except when approved in writing and then only after temporary utility services have been approved and provided. Do not begin demolition or deconstruction work until all utility disconnections have been made. Shut off and cap utilities for future use, as indicated.

Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces, using on-site materials when available. Where new work is to be applied to existing surfaces, perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surfaces of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface as closely as possible.

All work specified in this Section shall be considered incidental to the cost of construction and no separate payment will be made.

Payment shall be made under:

Item SP-14.01-1	Excavation of Concrete Slab on Grade	Per Cubic Yard
Item SP-14.01-2	Remove/Install Pavers and Concrete Slab	Per Lump Sum

SP-15.01 PORTLAND CEMENT CONCRETE:

All concrete (structural) shall be in accordance with Section 346 and Section 400 of the FDOT Standard Specifications.

All precast concrete shall be in accordance with Section 450 for the FDOT Standard Specifications.

Calcium nitrite shall be used as a corrosion inhibitor admixture in all concrete components (precast and cast-in-place) for the Project's structures, including the superstructure and substructure.

SP-15.02 CONCRETE STRUCTURES & REINFORCING STEEL:

Construction of concrete structures shall conform to the requirements of Sections 400 and 415 of the FDOT Standard Specifications.

Surface Finishes:

The concrete elements shall be finished in accordance with Section 400 of the FDOT Standard Specifications and per the following:

Element	FDOT Standard Specifications
Precast Concrete	450-10-5.4 for Top, 450-10-5.4 Class 1 Surface Finish (sides)
Cast-In-Place Slabs	Rough Float on Top & 400-15.2.4 Class 3 Surface Finish (sides)
Cast-In-Place Substructure	400-15.2.4 Class 3 Surface Finish

Method of Measurement & Basis Of Payment:

The quantities of concrete to be paid for specifically under this Section shall be the volume in cubic yards; or the length in linear feet of each of the following items for the various concrete classes indicated in the plans complete in place and accepted.

For items to be paid for per cubic yard, the calculation of the volume of concrete shall be per Section 400-22.2 of the FDOT Standard Specifications. Payment shall be at the contract unit price per cubic yard, for item(s) specified below. For concrete items to be paid for per cubic yard, the reinforcing steel shall be measured and paid for as provided in Section 415 of the FDOT Standard Specifications.

Payment shall be made under:

Item SP-15.02-1	Concrete Slab on Grade and Landing	Per Cubic Yard Reinforced
Item SP-15.02-2	Trestle	Per Cubic Yard Reinforced
Item SP-15.02-3	Gangway Landing Platform	Per Cubic Yard Reinforced

SP-15.03 STRUCTURAL FILL

Structural fill shall be in accordance with Sections 125 and 145 or the FDOT Standard Specifications.

Payment shall be made under:

Item SP-15.03	Crushed Rock Fill	Per Cubic yard

SP-16.01 PILE FOUNDATIONS:

All piles shall be in accordance with Section 455 of the FDOT Standard Specifications.
Steel pipe piles shall be ASTM A 252, Grade 3 modified, 50 ksi yield strength, double submerged arc welded pipe. Straight seam pipe will not be acceptable.

Pile testing shall be in accordance with Section 455 of the FDOT Standard Specifications.

Payment shall be made under:

Item SP-16.01	20" Steel Pipe Pile – ¼ inch thickness	Per Ton

SP-16.02 CAST-IN-PLACE CONCRETE PILES WITH STEEL CASING:

Concrete shall be Type IV in accordance with Section 346 and piles shall be in accordance with section 455 of the FDOT Standard Specifications.

Payment shall be made under:

Item SP-16.02	Concrete Drilled Shaft	Per VLF

SP-16.03 COATING STEEL WATERFRONT STRUCTURES:

Coating shall be in accordance with Sections 560 and 975 of the FDOT Standard Specifications.

Payment shall be made under:

Item SP-16.03	Epoxy Polyamide Coating	Per Square Feet

SP-17 HANDRAIL:

General: handrail shall be installed as directed in the Contract Plans, to the neat dimensions and elevations indicated therein.

Compensation: The quantity to be paid for under this section shall be the length in lineal feet authorized, complete in-place and accepted. The plan lengths shall be used to determine the lengths for payment.

Payment shall be made under:

Item SP-17-1	Handrail	Per Linear Foot

SP-18 CONCRETE FLOATING PIER (DOCK) for SMALL CRAFT:

Concrete floating dock shall be in accordance with the attached specification titled Concrete Floating Pier For Small Craft.

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

ACI INTERNATIONAL (ACI)

ACI 211.2	(1998; R 2004) Standard Practice for Selecting Proportions for Structural Lightweight Concrete
ACI 304R	(2000) Guide for Measuring, Mixing, Transporting, and Placing Concrete
ACI 305R	(1999; Errata 2006) Hot Weather Concreting
ACI 306.1	(1990; R 2002) Standard Specification for Cold Weather Concreting
ACI 309R	(2005) Guide for Consolidation of Concrete
ACI 318/318R	(2005; Errata 2005) Building Code Requirements for Structural Concrete and Commentary

AMERICAN WELDING SOCIETY (AWS)

AWS D1.4	(2005; Errata 2005) Structural Welding Code - Reinforcing Steel

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C1	(2003) All Timber Products - Preservative Treatment by Pressure Processes
AWPA C18	(2003) Standard For Pressure Treated Material in Marine Construction
AWPA C28	(2003) Standard for Preservative Treatment of Structural Glued Laminated Members and Lamination Before Gluing of Southern Pine, Coastal Douglas Fir, Hemfir and Western Hemlock by Pressure Processes
AWPA C33	(2003) Standard for Preservative Treatment of Structural Composite Lumber by Pressure Processes
AWPA M4	(2002) Standard for the Care of Preservative-Treated Wood Products
AWPA P5	(2005) Standard for Waterborne Preservatives

ASTM INTERNATIONAL (ASTM)

ASTM A 36	(2005) Standard Specification for Carbon Structural Steel
ASTM A 123	(2002) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 153	(2005) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 185	(2007) Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
ASTM A 307	(2007a) Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength
ASTM A 407	(2007) Standard Specification for Steel Wire, Cold-Drawn, for Coil-Type Springs
ASTM A 497	(2007) Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete
ASTM A 563	(2007) Standard Specification for Carbon and Alloy Steel Nuts
ASTM A 615	(2007) Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A 706	(2006a) Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement

ASTM A 767	(2005)Standard Specification for Zinc Coasted (Galvanized) Steel Bars for Concrete Reinforcement
ASTM A 775	(2007b) Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A 780	(2001; R 2006) Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM C 1107	(2007a) Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
ASTM C 94	(2007) Standard Specification for Ready-Mixed Concrete
ASTM C 150	(2007) Standard Specification for Portland Cement
ASTM C 173	(2009) Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 260	(2006) Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C 272	(2001; R 2007) Water Absorption of Core Materials for Structural Sandwich Constructions
ASTM C 330	(2005) Standard Specification for Lightweight Aggregates for Structural Concrete
ASTM C 494	(2005a) Standard Specification for Chemical Admixtures for Concrete
ASTM C 578	(2007) Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
ASTM C 595	(1997) Blended Hydraulic Cements (Metric)
ASTM C 618	(2005) Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C 989	(2006) Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars
ASTM D 256	(2006a) Determining the Izod Pendulum Impact Resistance of Plastics
ASTM D 570	(1998; R 2005) Standard Test Method for Water Absorption of Plastics
ASTM D 638	(2003) Standard Test Method for Tensile Properties of Plastics
ASTM D 792	(2000) Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM D 2240	(2005) Standard Test Method for Rubber Property - Durometer Hardness

ASTM D 3963	(2007) Standard Specification for Epoxy-Coated Steel Reinforcing Steel
ASTM D 4020	(2005) Ultra-High-Molecular-Weight Polyethylene Molding and Extrusion Materials
ASTM D 5456	(2007) Evaluation of Structural Composite Lumber Products
ASTM F 593	(2003; R. 2008) Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F 594	((2008) Standard Specification for Stainless Steel Nuts
ASTM F 844	(2007) Washers, Steel, Plain (Flat), Unhardened for General Use

EUROPEAN COMMITTEE FOR STANDARDIZATION (CEN/CENELEC)

EN 60309-1	(1999) Plugs, Socket-Outlets and Couplers for Industrial Purposes Part 1: General Requirements - IEC 60309-1
EN 60309-2	(1999) Plugs, Socket-Outlets and Couplers for Industrial Purposes Part 2: Dimensional Interchangeability Requirements for Pin and Contact-Tube Accessories - IEC 60309-2
EN 60529	(1991; Amendment 2000) Degrees of Protection Provided By Enclosures (IP Code)

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C57.12.29	(1999) Pad-Mounted Equipment - Enclosure Integrity for Coastal Environments

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA ICS 6	(2006) Standard for Industrial Controls and Systems Enclosures

PRECAST/PRESTRESSED CONCRETE INSTITUTE (PCI)

PCI MNL-116	(1999) manual for Quality Control for Plants and Production of Structural Precast Concrete Products
PCI MNL-120	(2004) Design Handbook - Precast and Prestressed Concrete

SOCIETY OF AUTOMOTIVE ENGINEERS INTERNATIONAL (SAE)

SAE AMS-QQ-A-200/8	(1997; R 2007) Aluminum Alloy 6061, Bar, Rod, Shapes, Tube, and Wire, Extruded

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS A-A-55619B	(2003) Casters, Industrial, Heavy Duty

UNDERWRITERS LABORATORIES (UL)

UL 1686	(1998; Rev thru Dec 2001) Pin and Sleeve Configurations
UL 231	(1998; Rev thru Jul 2006) Power Outlets
UL 489	(2004; Rev thru Jun 2006) Standard for Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures
UL 943	(2006) Ground-Fault Circuit-Interrupters
UL 98	(2004; Rev thru Apr 2006) Enclosed and Dead-Front Switches

1.2 MODIFICATIONS TO REFERENCES

In the ACI publications, the advisory provisions shall be considered to be mandatory, as though the word "shall" has been substituted for "should" wherever it appears; reference to the "Building Official," the "Structural Engineer" and the "Architect/Engineer" shall be interpreted to mean the Owner's Representative.

1.3 SUBMITTALS

The following shall be submitted in accordance with the Submittal Procedures described in the Contract Documents.

SD-02 Shop Drawings

Drawings of Precast Floats

Prior to fabrication of the dock system components, submit shop drawings signed and sealed by a Civil Engineer holding a valid Certificate of Registration in the State of Florida. The shop drawings shall indicate the proposed berth layout and size, float module dimensions, float module construction details, connection details, and location and methods for attaching utilities and accessories. Submit shop drawings for all specially fabricated items including dock anchors, hinges, hinge plates, connections, cleat installation and catalog sheets for all standard manufactured items that are to be incorporated into the floating dock system.

Drawings of Gangways

SD-03 Product Data/Catalog Cut Sheets

Anchorage and lifting inserts and devices

Cleats

Bumper strips & corner bumpers

Signage

Receptacle Stations

Guide Pile Caps

SD-05 Design Data

Precast Concrete Floats Design Calculations

Prior to ordering dock system materials, submit final design calculations signed and sealed by a Civil or Structural Engineer holding a valid Certificate of Registration in the State of Florida. The calculations shall demonstrate that the floating dock system, using the criteria specified herein as minimum requirements, is designed to withstand the specified loads without damage.

Concrete Mix Design

Gangway Design

SD-06 Certified Test Reports

Contractor-Furnished Mix Design

Submit copies of test reports showing that the mix has been successfully tested to produce concrete with the properties specified and will be suitable for the job conditions. Obtain approval before concrete placement.

Timber and timber treatment

Float module materials

Fasteners

Portland Cement and Fly Ash

Aggregates

Admixtures

Reinforcement Steel

Structural Steel and Aluminum

Foam water absorption

SD-07 Certificates

Fabrication

Rubbing Surface

SD-08 Documents

Dock Manufacturer's Experience

Prior to ordering the dock system, submit experience data verifying the dock system supplier's required years of experience in the manufacture and installation of concrete floating docks including the project location, date of installation, and Owner (including the name, address, phone number of a person who can be contacted for verification). A previous installation of the proposed system for this project shall be included.

Quality Control Plan

Prior to ordering the dock system, submit quality control plan to be used during the manufacture and installation of the floating dock system.

Operation & Maintenance Manual

Prior to completion of the dock system, submit operation and maintenance procedures manual for all floating dock system components. The manual shall include instructions, recommended frequencies of maintenance and maintenance procedures and materials by brand name and specification. All data shall be on 8 1/2 by 11 inches (and 11 by 17 inches, folder to fit) sheets of paper bound together in a book with a protective cover. The binder external cover shall be identified as "Floating Dock System Operation and Maintenance Procedures".

Float Module Record

Prior to completion of the dock system, submit a complete and accurate record of all float modules manufactured. The record shall include assigned float identification number, date cast, related concrete cylinder strength tests and all quality assurance tests and inspection items performed on the float module.

Warranty

Prior to completion of the dock system, submit warranty for dock system.

The individual floating dock modules shall carry a warranty against defects in materials and workmanship for a period of ten (10) years from the date of project acceptance. All other dock system components including

structural members and accessory items shall carry a warranty against defects in materials and workmanship for five (5) years from the date of project acceptance. If within the respective warranty periods any materials or their installation are found to be defective, the Contractor shall repair or replace the defective item to the satisfaction of the Owner and at no cost to the Owner. This warranty excludes coverage for damage caused by abuse, misuse or neglect, and improper maintenance unless the Contractor is obligated to provide warranty maintenance under the terms of the contract. The Contractor shall provide warranty maintenance for the dock system and include the cost therefore in his bid price.

1.4 PRECAST FLOATS

The work includes the provision of precast, non-prestressed concrete floating pier modules herein referred to as precast floats, and all other items relating to the precast floating pier system. Precast floats shall be the product of a manufacturer specializing in the production of precast concrete floats with a minimum of 10 years experience in the manufacture of precast concrete floating piers. The dock system design being proposed for this project shall have been successfully installed for a minimum of 5 years at another location.

1.5 DESIGN CRITERIA

ACI 318/318R and the PCI MNL-120. Design precast floats (including connections) for the design load conditions and spans indicated, and for additional loads imposed by the work of other trades. Design precast floats for handling without cracking in accordance with the PCI MNL-120.

1.5.1 Design Loads

A. Dead Load

Dead load shall consist of the weight of float modules, framing, wale system, attachment steel, miscellaneous connection devices, and all other permanently attached accessories such as utilities, dock boxes (which shall have an added 100 lbs. nominal contents for weight calculations), fire protection equipment, cleats, ramps, etc. Contractor shall exercise care to be sure that all dead loads are accurately determined and accounted for, including superimposed gangway loads, consideration of weight gain due to water absorption, and manufacturing tolerances that affect the final freeboard.

B. Live Load

1. Uniform Vertical Load (UVL) of 50 pounds per square foot of dock, including the area of landings and ramps supported by the dock.
2. Concentrated Vertical Load (CVL) of 650 Pounds applied at any location on the floating dock greater than 12-inches from an edge.

C. Wind Load (WL) on the projected area of a vessel/dock combination

1. Wind Pressure of 15 pounds per square foot minimum

2. Design Vessel Dimensions
   a. Overall Length = 30 feet
   b. Effective Profile Height = 5 feet
   c. Effective Beam Width = 12 feet
3. Wind Load Application
   a. Assume 100 percent berth occupancy.
   b. 100 percent applied to vessels in the unshielded berths or row.
   c. 15 percent applied to all vessels in the remaining (shielded) berths. To be considered “shielded”, a vessel must be downwind of an equal (or larger) vessel, and berthed on the same main walkway.

d. Transverse Load on Vessel applied at the 1/3 and 2/3 points to the dock.
e. Longitudinal Load on Vessel applied at vessel centerline to the dock.
f. On docks where the berth length is not defined ('side-ties'), wind loads shall be based on the maximum vessel length (L) to be accommodated, spaced at 1.10 x L over the length of the dock.

D. Vertical Wave Load (VWL)

1. Wave height of 2 feet
2. Wave length equal to 50 feet
3. Wave direction (propagation) parallel to longitudinal axis of dock.

E. Impact Load (IL) due to impact of a vessel applied (Berthing Load)

1. Design Vessel Dimensions
   a. Overall length = 30 feet
   b. Docking weight = 5 tons
2. Vessel approach at a speed of 5 fps and an angle of 90 degrees from the dock.
3. On side-tie docks, impact loads shall be based on the maximum vessel length to be accommodated at the dock and applied midway between dock supports.

1.5.2 Combined loading cases for design:

Case 1 – Dead Load only, including superimposed Gangway Dead Load.

Case 2 – Dead Load + Uniform Vertical Load

Case 3 – Dead Load + Concentrated Vertical Load

Case 4 – Wind Load: Consider wind load cases parallel and perpendicular to axis of dock:

Case 4a – Dead Load + Parallel Wind Load + Vertical Wave Load

Case 4b – Dead Load + Perpendicular Wind Load

Case 5 – Dead Load + Impact Load

1.5.3 Performance

A. Precast float modules shall be sized so that a single module (excluding walers) is used to attain the indicated pier width. The use of more than one module connected side by side to attain pier width is unacceptable.

B. Freeboard under dead load only shall not be less than 17 inches nor exceed 19 inches. Precast floats shall be designed to float level under dead load only. Freeboard under combined dead and uniform or concentrated live load shall not be less than 10 inches.

C. The floating dock system shall be designed to float level under dead load. The deck of the float modules shall be level and flush upon completion within the following tolerances.

1. Dead load deck surface slope
   a. Transverse Direction: Not more than 1/8 inch per foot.
   b. Longitudinal Direction: Not more than 1 inch per 10 feet of length.
2. Assembly gap between adjoining concrete floats:
   a. Minimum 1/4 inch, Maximum 1/2 inch on ADA Accessible Routes, or 3/4 inch all others.

3. Vertical height difference between adjoining concrete floats, walers and deck panels: Maximum 1/4 inch on ADA Accessible Routes, or 3/8 inch all others.

D. Flotation units shall be located within the structure so as to be capable of supporting a 300-lb. moving point load in any area on a module without causing excessive rolling or tilting of the pier. The pier shall be capable of supporting a 400-lb. point load at 1 foot from the offshore end of the pier and lose no more than 4 inches of freeboard; and supporting a 300-lb. point load applied to the corner of the offshore end of the pier and loose no more than 2 inches of freeboard differential per 3 feet of pier width between the offshore corners.

1.5.4 Design Calculations:

A. Calculations for loads imposed by the handling and lifting methods to be employed shall be provided based on the concrete strength expected at the time of lifting or moving of the float modules.

B. The material strength properties, load factors and capacity reduction factors shall be as defined by the applicable code.

C. The design calculations shall include but not be limited to the following:

1. Determination of extreme fiber stresses in structural members for all load cases.
2. Stresses in the dock system connections for all load cases.
3. Transfer of moored vessel forces to cleats and to the dock system.
4. Transfer of dock system loads to anchorage system that considers the difference in the structural stiffness of the dock system and the guide piles of various length and section.
5. Transfer of forces at guide pile frames and connections.
6. Transfer of forces at dock modules and dock module connections.
7. Freeboard calculations for all float modules.
8. Transfer of guide pile loads to soil, including analysis of pile-soil interaction (required if Contractor elects to revise the guide pile design indicated on the Drawings).

1.5.5 Gangway Design

Provide gangways of prefabricated aluminum for floating pier access, including connections at the bulkhead and bearing on the floating pier. Gangway shall be designed in accordance with "Specifications for Aluminum Structures", AA, latest edition, using allowable stresses for bridges.

1.5.5.1 Gangway Loading

Gangways shall be subject to the same load conditions identified in the paragraph titled "Pier Loading", except for berthing, mooring, current, wave, and pile loading conditions. Additionally, the gangway bulkhead end connections shall be designed to withstand a lateral force equal to 20 percent of the total dead load and 50 percent of the live load acting simultaneously with the dead and live loads. Handrails shall be designed for the following independent load cases: 1) a continuous horizontal load of 20 PLF applied along the full length of the top rail, and 2) a horizontal point load of 250 lbs acting at any point along the top rail.

1.5.5.2 Performance

a. Gangways shall have a minimum clear walkway width of 4 ft., and an overall outside width not to exceed 5 ft. Length of gangways shall be as indicated on the drawings. Gangways shall have continuous handrails that are a minimum of 3.5 ft. above the walking surface, but not to exceed 3.75 ft.
b. Walking surface shall be skid resistant.
c. Gangway pier end connections shall allow unrestricted vertical movement through tidal variation. Gangway bearing on floating piers shall be fitted with UHMW polyurethane rollers of adequate bearing area. Gangways shall be fitted with hinged apron plates to assure a safe uniform transition between gangway and deck surfaces. Apron plates will be designed so as to not damage or mar the floating pier surface.

d. Maximum midspan deflection under live load shall not exceed L/240.

e. Contact between aluminum and dissimilar metals or concrete shall be avoided, except for the use of compatible stainless steel pins. Where potential for galvanic corrosion exists, the aluminum shall be isolated from direct contact with other metals or concrete by use of suitable non-conducting insulators or bushings.

1.5.6 Quality Control Procedures

PCI Quality Certification shall be in accordance with PCI MNL-116. At the precast manufacturer's option, in lieu of core samples, ACI 318/318R full-scale load tests may be performed. Perform on randomly selected precast floats, as directed by the Owner's Representative.

Product Quality Control shall be in accordance with PCI MNL-116 for PCI enrolled plants. Where precast floats are manufactured by specialists in plants not currently enrolled in the PCI "Quality Control Program," provide a product quality control system in accordance with PCI MNL-116 and perform concrete and aggregate quality control testing using an approved, independent commercial testing laboratory. Submit test results to the Owner's Representative.

1.6 DELIVERY, HANDLING AND STORAGE

Use all means necessary to protect materials before, during, and after delivery to the Work site, and to protect the installed work and materials of all other trades. Use extreme care in the off-loading of materials to prevent damage.

Deliver the materials to the Work site and store, all in a safe area, out of the way of traffic, and shored up off the ground surface.

Place identification numbers on all float modules (such they are not covered up after assembly) that conforms to the shop drawing numbering system. Also identify hardware and framing lumber and store separately from each other. Protect all metal products with adequate weatherproof outer wrappings.

In the event of damage caused by the Contractor, immediately make repairs and/or replacements necessary to the satisfaction of the Engineer at no additional contract cost.

1.7 FACTORY INSPECTION

At the option of the Owner's Representative, precast floats shall be inspected by the QC Representative prior to being transported to the job site. The Contractor shall give notice 14 days prior to the time the units will be available for plant inspection. Neither the exercise nor waiver of inspection at the plant will affect the Government's right to enforce contractual provisions after units are transported or erected.

1.8 QUALITY ASSURANCE

1.8.1 Drawing Information

Submit drawings indicating complete information for the fabrication, handling, and erection of the precast floats and gangways. Drawings shall not be reproductions of contract drawings. Design drawings of precast floats and gangways (including connections) shall be prepared and sealed by a registered professional engineer, and submitted for approval prior to fabrication. The drawings shall indicate, as a minimum, the following information:

a. Floating pier system layout
b. Marking of floats for assembly
c. Connections between floats, and connections between floats and other construction
d. Location and anchorage of mooring fittings
e. Waler size and splice pattern
f. Guide pile size, length, location and connection to pier

g. Reinforcing details
h. Material properties of all materials used
i. Lifting and assembly inserts and embedded items
j. Dimensions and surface finishes of each float
k. Erection sequence and handling requirements
l. All loads used in design (such as live, dead, wind, current, berthing, handling, and erection)
m. Bracing/shoring required
n. Gangways
o. Utility routing and connections for work of other trades

1.8.2 Design Calculations

Submit calculations reflecting design conforming to requirements of the design criteria. Design calculations of precast floats (including connections) shall be prepared and sealed by a registered professional engineer, and submitted for approval prior to fabrication. In addition to member sizing calculations, submit calculations for the pier system which include:

a. Anchorage attachment points to insure reactions shall be appropriately and rationally distributed throughout the system
b. Overall system loads under full occupancy, with consideration for shielding factors, and deflection of the system and its effects on anchor loading
c. Anchorage system capacity for individual and overall load considerations
d. Guide Pile size, length, cross section, and minimum embedment

1.8.3 Concrete Mix Design

Thirty days minimum prior to concrete placement, submit a mix design for each strength and type of concrete. Include a complete list of materials including type; brand; source and amount of cement, pozzolan, and admixtures; and applicable reference specifications.

PART 2 - PRODUCTS

2.1 CONTRACTOR-FURNISHED MIX DESIGN

ACI 211.2, using weight method. The minimum compressive strength of concrete at 28 days shall be 5500 psi in accordance with ASTM C 94. The fly ash contents shall be not less than 15% nor more than 25% by weight of total cementitious material. The maximum water-cement ratio shall be 0.40. Concrete shall be air-entrained in accordance with ACI 212.3R. The air content of freshly mixed concrete shall be between 2% and 5% tested in accordance with ASTM C 173.

2.2 PRECAST FLOAT MATERIALS

2.2.1 Cement

ASTM C 150, Type I or II, except as modified herein. Use one manufacturer for each type of cement, fly ash, and pozzolan.

2.2.1.1 Fly Ash and Pozzolan

ASTM C 618, Type F or C, except that the maximum allowable loss on ignition shall be 6 percent for Type F.

2.2.2 Water

Water shall be fresh, clean, and potable.

2.2.3 Aggregates

ASTM C33 or ASTM C 330, Size 8 (3/8 inch), except as modified herein. Obtain aggregates for exposed concrete surfaces from one source. Aggregates shall not contain any substance which may be deleteriously reactive with the alkalies in the cement. Lightweight aggregate shall consist of expanded and coated shale or equivalent material of sufficient strength and durability to provide concrete of the required strength.

2.2.4 Grout

2.2.4.1 Nonshrink Grout

ASTM C 1107/C 1107M.

2.2.4.2 Cementitious Grout

Shall be a mixture of Portland cement, sand, and water. Proportion one part cement to approximately 2.5 parts sand, with the amount of water based on placement method. Provide air entrainment for grout exposed to the weather.

2.2.5 Admixtures

2.2.5.1 Air-Entraining

ASTM C 260.

2.2.5.2 Accelerating

ASTM C 494, Type C or E.

2.2.5.3 Water Reducing

ASTM C 494 Type A, E, or F.

2.2.6 Reinforcement

All reinforcement shall be hot-dipped galvanized, ASTM A 123, ASTM A 153, ASTM A 775 or ASTM D 3963. Visible defects and cut ends shall be repair coated. Use stainless steel ties with reinforcement.

2.2.6.1 Reinforcing Bars

ASTM A 615 or ASTM A 706, Grade 60.

2.2.6.2 Welded Wire Fabric

ASTM A 185 or ASTM A 497. Provide flat sheets of welded wire fabric, rolled fabric is not acceptable. Maximum fabric grid is 50mm x 50mm (2 inch x 2 inch).

2.2.7 Metal Accessories

2.2.7.1 Embedments

ASTM F 593, Group 2, Type 316 L stainless steel with welded loop or horizontal bar hook.

2.2.7.2 Structural Steel

Type 316 L stainless steel.

2.2.7.3 Waler rods

ASTM A 307 and ASTM A 36. Rods shall be hot-dipped galvanized. Waler rods shall be continuous laterally through the pier, with a minimum diameter of 3/4 inch. All continuous waler rods shall be placed within PVC sleeves cast into the precast float modules. PVC sleeve shall be in accordance with ASTM D 2241, thin wall class, SDR 12.

2.2.7.3 Bolts

ASTM F 593, Group 2, Type 316 L stainless steel.

2.2.7.4 Nuts

ASTM F 594, Group 2, Type 316 L series stainless steel.

2.2.7.5 Washers

ANSI B 27.2, 300 series stainless steel.

2.2.7.6 Cleats

Dock cleats shall be aluminum or cast iron, hot dipped galvanized open base cleats Type 504H as supplied by Henderson Marine Supply, or approved equal. Cleat locations and sizes shall be as indicated on the Drawings; attach cleats to the docks/walers in accordance with the dock manufacturers' recommendation.

2.2.8 Foam Core

Closed cell, expanded polystyrene (EPS), ASTM C 578. Foam core laminations shall be glued with a low solvent glue. Core shall not be made from more than four laminated sections. Horizontal laminations in the upper 10 inches are not permitted. Core shall be strapped to prevent de-lamination during transportation and handling. Core shall not contain more than 10 percent reground EPS foam material. Reground foam pieces shall not exceed 3/8-inch diameter.

Unit Weight:	0.95 – 1.25 PCF
Water absorption (ASTM C 272):	3 percent (by volume)
Dimensional tolerance:	+/- 1/8 inch

2.3 FABRICATION

PCI MNL-116 unless specified otherwise.

2.3.1 Precast Floats

Precast floats shall be cast monolithically, cold joints of any type are not acceptable. Modules shall have a minimum deck and wall thickness of 2 inches and 1 inch, respectively. Float bottom shall be either 1-inch thick concrete, similar to walls, or elastomer coating. Elastomer coating shall be polyethylene resin containing UV inhibitors and black in color. Precast float decks shall be constructed to drain freely and there shall be no floodable enclosed spaces.

2.3.2 Forms

Brace forms to prevent deformation. Forms shall produce a smooth, dense surface. Chamfer exposed edges of

floats 1/2 inch, unless otherwise indicated. Form tolerance shall not exceed 1/8 inch dimensions indicated on shop drawings. When measured diagonally, floats more than 1/2 inch out of square shall be rejected.

2.3.3 Reinforcement Placement

ACI 318/318R for placement and splicing. Reinforcement may be preassembled before placement in forms.

2.3.4 Concrete

2.3.4.1 Concrete Mixing

ASTM C 94. Mixing operations shall produce batch-to-batch uniformity of strength, consistency, and appearance.

2.3.4.2 Concrete Placing

ACI 304R, ACI 305R for hot weather concreting, ACI 306.1 for cold weather concreting, and ACI 309R, unless otherwise specified. Concrete shall be vibrated internally and/or externally to assure a smooth, dense finish.

2.3.4.3 Concrete Curing

Commence curing immediately following the initial set and completion of surface finishing. Provide curing procedures to keep the temperature of the concrete between 50 and 190 degrees F. When accelerated curing is used, apply heat at controlled rate and uniformly along the casting beds. Monitor temperatures at various points in a product line in different casts. Cure for a minimum of seven days prior to transporting, launching and assembly.

2.3.5 Surface Finish

Precast floats containing hairline cracks which are visible and are less than 0.02 inch in width, may be accepted. Precast floats which contain cracks greater than 0.02 inch in width shall be approved by the Owner's Representative, prior to being repaired.

Any precast float that is structurally impaired or contains honeycombed section deep enough to expose reinforcing shall be rejected. Voids up to 1/2-inch diameter or 1/8-inch deep shall be patched with an approved epoxy group. Larger voids may only be repaired with the approval of the Owner's Representative.

On unformed surfaces, provide a steel troweled and broomed finish for pier deck surface. Slip resistant broomed deck finish shall be transverse to pier orientation. All deck edges shall have a 1/2-inch bull-nose radius with a minimum 1 1/2-inch-wide, smooth, hard steel finished face.

Formed surfaces shall be hard, dense, and as smooth as finished lumber. All surfaces to receive contacting lumber shall be smooth and true to within 1/32 inch.

2.3.6 Float Identification

All precast floats are to be clearly and permanently identified on one side and one end, between the bottom of the waler and the waterline. Identification shall include name of manufacturer, date of manufacture, specific float type, and job number.

2.4 TIMBER AND WOOD PRODUCTS

All walers shall be fabricated from parallel strand lumber (PSL) engineered structural beams. PSL structural beams shall be in accordance with ASTM D 5456. All other structural lumber shall be S4S structural Douglas Fir-Larch or Southern Yellow Pine.

2.4.1 Preservative Treatment

Treat wood to be used in contact with salt water or salt-water splash in accordance with AWPA C1 and C18 with waterborne preservative AWPA P5, (ACA - Ammoniacal Copper Arsenate, ACZA - Ammoniacal Copper Zinc Arsenate, CCA - Chromated Copper Arsenate) to 0.6 pcf retention. For glue-laminated, engineered structural beams, treat in accordance with AWPA C28 and AWPA C33 as applicable.

2.5 BUMPERS - ULTRA-HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMWPE)

Install all bumpers per manufacture's recommendation, using large headed non-staining aluminum or stainless steel nails.

2.5.1 Dock Bumpers

Dock Bumpers shall be extruded/molded from non-yellowing Marine Grade Vinyl Extra Weight Bumper Strip Item No. 03-10 as provided by Henderson Marine Supply, or approved equal. The bumper strip shall be applied to edges of all walkways and slip fingers.

2.5.2 Corner Bumpers

Outside corners shall be protected with a Henderson Universal 10-inch Corner Bumper Item No. 03-06A as supplied by Henderson Marine Supply or approved equal.

2.6 GUIDE PILES

Guide piles shall be steel piles; fabricated and installed in accordance with section 455 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction. Pile size, length, cross section and embedment shall be determined by pier manufacturer's design.

2.6.1 Guide Pile Caps

Provide heavy UV-resistant, low-density polyethylene piling caps with an estimated life in excess of 10 years. Caps shall be cone or pyramid shaped and attached to the piling top with stainless fasteners.

2.7 GANGWAYS

2.7.1 Aluminum

Aluminum alloy shall be 6061-T6. Extruded in accordance with the applicable requirements of SAE AMS-QQ-A-200/8.

2.7.2 Stainless Steel

Type 316 L.

2.7.3 Castings

F-214 Cast aluminum. Castings shall be true to pattern, structurally sound and free from blowholes or other defects.

2.7.4 Insulators

MIL-I-24768/14. Bushings or separation sheets shall be a minimum of 1/16-inch thickness.

2.7.5 Rollers

FS A-A-55619B, UHMW polyurethane, with UV inhibitors added. Color shall be black.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Installation shall be in accordance with approved shop drawings with connections tightened as required after complete installation of each unit of the work in the water and before final inspection.

B. All welding shall be performed by properly certified welders and shall conform to the current specifications of the American Welding Society.

C. Fasteners shall not protrude beyond the fascia into the berthing area. Fasteners protruding above the surface of the deck shall have a low, rounded profile.

D. Bolts shall be of the size required, with adequate thread length. Holes for all lag bolts and screws shall be pre-drilled and turned into place. Driving is not allowed.

E. Lumber shall be fabricated accurately to provide uniform gaps and butt joint connections. Lumber splices shall not exceed 1/2 inch between adjoining ends.

F. All walers, fascia, spacers, panels, or any other members, which are subject to foot traffic, shall be flush with the concrete walking surface.

G. All dock accessories shall be installed in accordance with the Drawings, Specifications and the manufacturer's recommended method of installation.

H. Schedule installation of dock accessories to avoid damage from other work.

3.2 DOCK SYSTEM TOLERANCES

A. Install floating dock system to the planned dimensions within the tolerances shown on the drawings or specified herein. Any float exceeding the allowable tolerances shall be removed and replaced.

B. Float Fabrication Tolerances (allowable variation of construction dimension from nominal dimension shown on the Drawings):

1. Float Width: +/- 2 inches from nominal float width
2. Float Depth: As required to satisfy freeboard requirements

Note: The above tolerances are intended to permit flexibility adapting available formwork for use on this project. Once the construction dimension is fixed by the Contractor, the more stringent casting tolerances shall govern.

C. Dock freeboard that is less than specified may be corrected by placing supplemental flotation under the dock only with the approval of the Engineer. Supplemental floats shall consist of polyethylene shells, 0.15 in. minimum thickness, encapsulating expanded polystyrene foam cores designed for complete submersion in water with no vents or air valves. The floats shall interlock with the dock to prevent lateral displacement without the use of adhesives or fasteners. Floats as manufactured by Flotation Solutions are deemed to conform with these requirements.

3.3 SURFACE REPAIR

Prior to erection, and again after installation, precast floats shall be checked for damage, such as cracking, spalling, and honeycombing. As directed by the Owner's Representative, precast floats that do not meet the surface finish requirements specified in Part 2 in paragraph entitled "Surface Finish" shall be repaired, or removed

and replaced with new precast floats.

3.4 LAUNCH AND ASSEMBLY

Precast floats shall be launched after the concrete has attained the specified compressive strength, unless otherwise approved by the precast manufacturer. Assemble in accordance with the approved shop drawings. PCI MNL-116 and PCI MNL-120 (Chapter 8), for tolerances. Brace precast floats, unless design calculations submitted with the shop drawings indicate bracing is not required. Follow the manufacturer's recommendations for maximum construction loads.

3.5 ANCHORAGE

Provide anchorage for fastening work in place. Conceal fasteners where practicable. Make threaded connections up tight and nick threads to prevent loosening.

3.6 WELDING

AWS D1.4 or welding connections and reinforcing splices. Protect the concrete and other reinforcing from heat during welding. Weld continuously along the entire area of contact. Grind smooth visible welds in the finished installation. Welding of epoxy-coated reinforcing is not allowed.

3.7 OPENINGS

Holes or cuts requiring reinforcing to be cut, which are not indicated on the approved shop drawing, shall only be made with the approval of the Owner's Representative and the precast manufacturer. Drill holes less than 12 inches in diameter with a diamond tipped core drill.

3.8 GALVANIZING REPAIR

Repair damage to galvanized coatings using ASTM A 780 zinc rich paint for galvanized surfaces damaged by handling, transporting, cutting, welding, bolting, or acid washing. Do not heat surfaces to which repair paint has been applied.

3.9 GROUTING

Clean and fill indicated areas, solidly with nonshrink grout or cementitious grout. Provide reinforcing where indicated. Remove excess grout before hardening.

Payment shall be made under:

Item SP-18-1	Concrete Floating Dock	Per Square Foot
Item SP-18-2	Gangway	Per Linear Foot
Item Sp-18-3	Pay Box	Per Each

SP-19.01 BOLLARDS

General: Lighted Bollards shall be installed as directed in the Contract Plans, to the neat dimensions, elevations and indicated therein. During removal of existing bollard(s), protect, store and reinstall the bollard.

Compensation: The quantity to be paid for under this section shall be the number authorized, complete in-place and accepted. The plan count shall be used to determine the number of bollards for payment.

Payment for this quantity shall be paid for at the contract price in "SP-19.01 Bollards (Lighted) (Furnished & Installed)". Such price and payment shall be full compensation for all work specified under this section, including demolition of electrical conduit and wiring and removal of existing bollard(s) and shall include all materials,

equipment, tools, labor and materials necessary to complete the work.
Payment shall be made under:

Item SP-19-01	Bollards (Lighted) (Furnish & Install)	Per Each

SP-19.02 NAVIGATION LIGHTS

General: Navigation lights shall be installed as directed in the Contract Plans, to the neat dimensions, elevations and indicated therein.

Compensation: The quantity to be paid for under this section shall be the number authorized, complete in-place and accepted. The plan count shall be used to determine the number of navigation lights for payment.

Payment for this quantity shall be paid for at the contract price in "SP-19.02 Navigation Lights (Furnished & Installed)". Such price and payment shall be full compensation for all work specified under this section shall include all materials, equipment, tools, labor and materials necessary to complete the work.

Payment shall be made under:

Item SP-19-02	Navigation Lights (Furnish & Install)	Per Each

SP-25.01 GENERAL PROVISIONS FOR ELECTRICAL WORK

PART 1 – GENERAL

1.1 Related Documents:
- A. Conditions of the Contract - General Provisions apply to the work of this Section.
- B. The provisions of this Section apply to each and every Section of this Provision.

1.2 Scope of Work:
- A. Provide labor, material, equipment and services necessary for complete, safe installation of functioning systems in compliance with performance requirements specified and in conformity with all applicable codes and authorities having jurisdiction, including temporary light and power, cutting and patching and in general, the following Sections of these Specific Provisions:

SP-25.01	General Provision for Electrical Work
SP-25.02	Basic Electrical Materials and Methods
SP-25.03	Service and Distribution
SP-25.04	Lighting Fixtures

1.3 References and Definitions:
- A. Refer to General Conditions and Conditions of the Contract for definitions applicable to the work of SP-25. In addition, the following definitions apply:

1. "Work": labor, materials, equipment, apparatus, controls, accessories and other items required for proper and complete installation.
2. "Wiring": raceway, fittings, wire, boxes and related items.
3. "Concealed": embedded in masonry or other construction installed in furred spaces within double partitions or hung ceilings, in trenches, in crawl spaces or in enclosures.
4. "Exposed": not installed underground or "concealed" as defined above.

5. "Indicated," "Shown," or "noted": as indicated, shown or noted on drawings or specifications.
6. "Similar" or "equal": equal in materials, weight, size, design and efficiency of specified product.
7. "Reviewed," "satisfactory," "accepted," or "directed": as reviewed, satisfactory, accepted or directed by or to Architect.
8. "Control Devices": automatic sensing and switching devices, such as, thermostats, pressure, float, electro-pneumatic switches and electrodes controlling operation of equipment.

B. Specifications are of simplified form, and include incomplete sentences, words or phrases, such as, "The Contractor shall," "shall be," "furnish," "provide," "a," "an," "the," and "all" have been omitted for brevity.

1.4 Applicable Publications:

The National Electrical Code and Publications of the Organizations listed below are referenced herein by the abbreviations noted in parentheses, with or without additional identifying symbols. Unless otherwise specified, all work shall be manufactured, tested and installed in accordance with the latest issues of such standards.

A. American Society for Testing and Materials (ASTM).

B. Underwriters' Laboratories, Inc. (UL).

C. Insulated Power Cable Engineers Association (IPCEA).

D. National Electrical Manufacturers Association (NEMA).

E. Institute of Electrical and Electronic Engineers (IEEE).

F. American National Standards Institute, Inc. (ANSI).

G. National Fire Protection Association (NFPA).

H. Southern Standard Building Code (SSBC).

I. Illumination Engineering Society (IES).

1.5 Electrical Characteristics:

A. Distribution: 120/208 volt, 3 phase, 4 wire, 60 hertz.

1.6 Drawings:

A. Electrical drawings considered to be diagrammatic indicating general arrangement of systems and equipment and are not to be used as erection drawings. They do not indicate every fitting, pull box, etc., which may be required to complete the job. Prepare field erection drawings, as required, to ensure proper installation.

B. Electrical Drawings indicate the general arrangements of circuits and outlets, location of switches, panelboards, conduit and other work. All outlets shall be located uniformly with respect to beams, structures, etc.

C. For exact locations of structural elements, refer to dimensioned structural drawings. Field measurements take precedence over dimensioned drawings.

1.7 Record Drawings:

A. For requirements, refer to Conditions of the Contract.

1. Keep a complete set of all electrical drawings in job site office for showing actual installation of electrical systems and equipment.
2. Use this set of drawings for no other purpose.

3. Where any material, equipment, or system components are installed differently from that shown, indicate differences clearly and neatly using ink or indelible pencil.
4. At project completion, submit record set of drawings (see Division 1).

1.8 Submittals:

A. Standard Products: Materials and equipment essentially the standard products of a manufacturer regularly engaged in the manufacture of the product. They shall essentially duplicate materials and equipment that have been in satisfactory use for at least two years, except where a longer period is indicated.

B. A manufacturer's statement indicating compliance with the applicable standard of the American Society for Testing and Materials, National Electrical Manufacturers Association, or other commercial standard, is acceptable.

C. The Contractor shall provide a letter of concurrence, acquired by the Contractor, from Hillsborough County regarding the attachment of the lighting fixtures, conduit and all other associated entities to the Platt Street Bridge.

1.9 Operation and Maintenance Manual:

A. Prepare maintenance manuals, and in addition to the requirements specified in General Provisions, include the following information for equipment items:

1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and catalog numbers of replacement parts.
2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair and reassembly; aligning and adjusting instructions.
4. Servicing instructions and lubrication charts and schedules.

PART 2 – PRODUCTS

2.1 Quality of Materials:

A. New, free from defects and listed by Underwriters' Laboratories, Inc.

2.2 Inserts and Supports:

A. Stainless steel for supports:

1. Shop fabricate for field assembly using stainless steel bolts.
2. Maximum loading 75 percent of rating.
3. Supports from construction: inserts, beam clamps, steel fishplates (in concrete fill only), cantilever brackets or other means. Submit for review.
4. Grouped lines and services: trapeze hangers or bolted angles or channels.

2.3 Prime Paint and Touch Up:

A. Paint:

1. Best grade for its purpose
2. Deliver in original sealed containers
3. Apply in accordance with manufacturer's instructions
4. Colors: as selected.

B. Galvanized iron primer: panel and pull boxes, after fabrication.

C. Hot dipped galvanized or dipped in zinc-chromate: outlet boxes junction boxes, conduit hangers, rods, inserts and supports.

D. Red lead or zinc-chromate with finish to match surroundings: marred surfaces of steel equipment iron work.

2.4 Labeling:

A. Nameplates:

1. Engraved phenolic nameplates for switchboards, panelboards and motor control centers.
2. Pressure embossed label for remote starters and disconnect switches.
3. Inscription: subject to review, indicating equipment and voltage.
4. Provide for:
   a. Disconnect Switches
   b. Panelboard and Load Centers
   c. Lighting Contactors
   d. Time Clocks
   e. Cabinets

B. Panelboard typewritten directories.

PART 3 – EXECUTION

3.1 General:

A. Use only thorough, highly skilled, and experienced workmen.

B. Provide all necessary offsets and crossovers in conduits, raceways, cabletrays and ducts.

C. Install exposed conduits parallel to structure and vertically plumb, unless otherwise indicated.

3.2 Cutting and Patching:

A. Provide cutting, fitting, repairing, patching and finishing of installed work.

1. Include installed work of other sections where it is necessary to disturb such work to permit installation of electrical work.
2. Repair or replace existing or new work disturbed.

B. Install sleeve conduits under existing sidewalk with open cutting or removal of sidewalk. At the other locations, avoid cutting, where possible, by setting sleeves or frames, and by requesting openings in advance.

C. Before cutting, obtain approval of the City.

1. Use only approved methods.
2. Cut all holes neatly and as small as possible to admit work.
3. Do not weaken walls or slabs; locate holes in concrete to miss structural sections.

D. Locate openings and sleeves to permit neat installation of conduits and equipment.

3.3 Protection of the Work:

A. Protect the work against damage from all causes. Provide and maintain protective coverings to exclude dirt, dust, paint, etc., from equipment to prevent entrance of dirt or construction material.

B. Equipment Cleaning: All equipment shall be thoroughly cleaned upon completion of the work. Cleaning shall be in accordance with Conditions of the Contract of these Specifications. All dust, dirt, spatter of paint, plaster and other materials and all stains and discolorations of the factory finish shall be removed. Finishes shall be restored to original condition.

C. Damage Repair and Replacement: Prior to acceptance of work, repair all damaged equipment, cables, surfaces and finishes equal to new. Replace broken work and damaged conduit with new.

D. Prevention of Corrosion: All metallic materials shall be protected against corrosion. Exposed metallic parts of outdoor apparatus shall be given a rust-inhibiting treatment and standard finish by the manufacturer. Aluminum where connected to dissimilar metal shall be protected by approved fittings and treatment. All parts such as boxes, bodies, fittings, guards, and miscellaneous parts made of ferrous metals, but not of corrosion-resistant steel, shall be zinc-coated in accordance with ASTM A123 or A153, except where other equivalent protective treatment is specifically approved in writing by the Owner.

3.4 Installation:

A. Install and connect all appliances and equipment as specified and as shown on the contract drawings in accordance with the manufacturer's instructions and recommendations. Furnish and install complete electrical connections recommended by the manufacturer, and as required for proper operation. Before roughing in outlets, verify locations, voltage, phase, current rating and type of outlet required from approved shop drawings of the equipment; for Owner furnished equipment verify same from shop drawing or visual inspection of equipment. Except as otherwise shown on the contract drawings, provide a flush junction box in the wall beneath the operating level of the equipment and connect to the equipment with flexible conduit. Equipment having built-in switches shall be completely wired as required. Plugs and cords on equipment shall be replaced, shortened or lengthened to suit the outlets furnished.

B. Provide all necessary anchoring devices and supports.

1. Use structural supports suitable for equipment.
2. Check loadings and dimensions of equipment with shop drawings.
3. Do not cut, or weld to, building structural members.

C. Verify that equipment will fit support layouts indicated.

1. Where substitute equipment is used, revise indicated supports to fit at no additional cost.

D. Install equipment to permit easy access for normal maintenance.

1. Maintain easy access to switches, pull boxes, receptacles, etc.
2. Relocate items which interfere with access.

E. Provide tamperproof screws on all light fixtures, device plates, etc.

3.5 Coordination:

A. Interferences between trades must be determined before work is fabricated or installed. The Contractor must thoroughly familiarize himself with all details of the work and working conditions and coordinate the work during the preliminary stages to ensure that actual erection will proceed without such interference. The coordination is of paramount importance; and no request for additional payment will be considered where such request is based upon interference.

B. Where job conditions require reasonable deviations from contract documents, make such deviations without additional cost to Owner after obtaining Owners approval in writing.

C. Within the limits indicated on drawings, provide the maximum practicable space for operation, repair, removal and testing of electrical equipment. Verify prior to submission of shop drawings, that each submitted component of electrical equipment will properly fit and function within its allotted space, and will properly interface with the work of other trades.

D. Conduits, wireways and similar items, shall be kept as close as possible to ceiling, structure, walls and columns to take up a minimum amount of space. Locate such items so that they will not interfere with the intended use of other equipment.

E. Furnish and install all offsets, fittings and similar items necessary to accomplish the requirements of coordination without additional expense to Owner.

F. Electrical systems shall be provided complete to all points of connection and service as shown on drawings.

G. Do not use equipment exceeding dimensions indicated or arrangements that reduce required clearances.

3.6 Examination of Existing Conditions:

A. Visit and carefully examine those portions of the site and/or present buildings affected by this work so as to become familiar with existing conditions and difficulties that will attend the execution of the work before submitting proposals.

B. Submission of a proposal will be construed as evidence that such examination has been made and later claims for labor, equipment or materials required because of difficulties encountered, which would have been foreseen had such examination been made, will not be recognized.

3.7 Connections to Existing Work:

Plan installation of new work and connections to existing work to insure minimum interference with regular operation of existing facilities.

3.8 Moving of Equipment:

Where necessary, ship in crated sections of size to permit passing through available spaces.

3.9 Accessibility:

Group concealed electrical equipment requiring access with equipment freely accessible through access doors.

3.10 Noise and Vibration:

Exceeding specified limits or due to faulty equipment or workmanship: correct, as directed, without additional cost to the owner.

3.11 Field Quality Control:

A. Perform indicated tests to demonstrate workmanship, operation, and performance.

1. Conduct tests in presence of Architect/Engineer and, if required inspectors of agencies having jurisdiction.
2. Arrange date of tests in advance with Architect/Engineer, manufacturer and installer.
3. Furnish or arrange for use of electrical energy, steam, water, diesel fuel or gas required for tests.
4. Furnish all lubricating material required for test.

B. Repair or replace equipment and systems found inoperative or defective and retest.

1. If equipment or system fails retest, replace it with product conforming to Contract Documents.
2. Continue remedial measures and retests until satisfactory results are obtained.

C. Test equipment and systems as indicated for each item, unless otherwise recommended by manufacturer.

3.12 Final Performance Test:

A. Perform panel load balance, short circuit and freedom from ground (including ground fault protection where provided), at completion of installation.

B. Submit results for review.

3.13 Adjust and Clean:

A. Inspect all equipment and put in good working order.

B. Clean all exposed items.

C. Where new work occurs in existing areas where no other work has been done, clean area and restore to original condition.

3.14 Putting System In Operation - Start Up:

A. Put all systems into satisfactory operation prior to final acceptance, at time agreed to by General Contractor, Owner and Engineer.

B. Operate all systems in good working for period of 5 working days.

SP-25.02 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 – GENERAL

1.1 Related Documents:

A. Division 1 - General Provisions and Section SP-25.01 - General Provisions for Electrical Work, apply to the work of this Section.

1.2 Description:

A. This Section covers, unless otherwise noted, Basic Electrical Materials and Methods in accordance with the Drawings and Specifications.

1.3 Shop Drawings:

A. Submit shop drawings for, but not limited to the following:

1. Wires and cables.
2. Device plates.
3. Raceway and fittings.

B. Refer to 'Submittal' specification in Section SP-25.01 for additional requirements.

PART 2 – PRODUCTS

2.1 Raceways:

A. Complete system of raceways including conduits, fittings, sleeves, wireways, handholes, manholes, and required accessories.

B. Conduits:

1. Polyvinyl chloride conduit (PVC): Self-extinguishing, UL approved; concrete encased, and direct burial: heavy wall, schedule 40 and/or 80.
2. Rigid galvanized steel PVC coated; UL approved; exterior surface mounted.
3. Rigid galvanized steel; bituminous coated; UL approved, underground.
4. HDPE, UL approved; directionally drilled.

2.2 Wires and Cables:

A. Complete system of conductors, cables and accessories.

B. Conductors:

1. Applicable standards: ASTM, or approved equivalent.
2. Size references: AWG except as noted.
3. Type: Copper, solid No. 10 and smaller, stranded No. 8 and larger.

C. Sizes:

1. General use: No. 12 minimum.
   At 120 volts and over, 100-ft. circuit length: No. 10 minimum.
2. Other voltages and phases: As required, to maintain equivalent voltage drop.
3. Increase raceway sizes for larger wire, as required.

D. Insulation:

1. Rubber and thermoplastic: ASTM and IPCEA standards.
2. 600-volt class.

E. Types:

1. XHHW or THWN 75 deg. C, flame retardant, moisture and heat resistant, thermoplastic, used for feeders and branch circuits, except as noted.
2. USE: 75 deg. C, heat and moisture resistant, used for feeders and branch circuits direct buried and in raceways located underground, in concrete slabs and masonry in direct contact with earth, and in permanently moist locations.
3. Color coding: As per code.
   a. Where color-coded cable is not available, certify in writing and request permission for overlap color taping conductors (minimum length 6 ft.) in accessible locations.

F. Accessories:

1. Feeders: Indicate feeder number, size, phase and points of origin and terminations.
2. Terminations, splices and taps under 600 volts:
   a. Copper conductors No. 10 and smaller: With watertight compression type or twist-on spring-loaded connectors and clear nylon insulated covering.
   b. Copper conductors No. 8 and larger: Mechanical bolted pressure or hydraulic compression type using manufacturer's recommended tooling.
   c. Cable lugs and connectors: Compression type of same metal as conductors. Provide to match cable, with marking indicating size and type.
   d. Copper lug connections to bus bars: Use antisieze compound on tang.

G. Boxes:

1. Outlet Boxes: Except as otherwise required by construction, devices or wiring.

2. Outdoor and damp locations: Weatherproof PVC.
3. Without fixture or device, blank cover.

H. Junction and Pull Boxes: FRP, NEMA 4X, threaded hubs and gaskets.

PART 3 – EXECUTION

3.1 Installation of Raceways:
A. Install as indicated.

3.2 Installation of Supports:
A. Strap hangers or wall brackets.

B. Secure raceways to supports with pipe straps or U-bolts.

C. Spacing: As indicated or required.

D. Mount supports to structure with expansion shields or inserts on concrete, rawl plugs or wood plugs are not permitted.

E. Exposed: Run parallel with or at right angles to walls.

F. Polyvinyl Chloride Conduit (PVC): Cut ends square, ream smooth, wipe clean, apply approved solvent cement and quarter turn as drawing up tight.

3.3 Installation of Boxes:
A. Outlet boxes:

1. Set boxes square and true with building finish.
2. Secure to building structure by adjustable strap irons.
3. Verify outlet locations in finished spaces with architectural drawings of interior details and finishes.

B. Panel, Junction and Pull Boxes:

1. Location: Clear of other trades and accessible.
2. Support: From structure, independent of conduit.

C. Expansion Fittings:

1. Provide at expansion joints where indicated or required and on length of runs in accordance with manufacturers recommendations.
2. Outdoor installations: Weatherproof, except as noted.

D. Wire and Cable Installation:

1. Not more than 3 lighting or convenience outlet circuits in one raceway, unless otherwise indicated.
2. Pull no thermoplastic wires at temperatures lower than 32 degrees F.

3.4 Installation of Devices:
A. Install all switches and outlets to bear evenly and true.

3.5 Cable Tests:

A. Continuity and insulation tests: 600 volts: megger 100 percent of feeders.

B. Submit full details of testing procedure, test levels and certified test results for approval. Perform prior to connecting equipment and in presence of authorized representative.

C. Submit written report of results.

D. Correct or replace cable testing below manufacturer's standards.

SP-25.03 SERVICE AND DISTRIBUTION

PART 1 – GENERAL

1.1 Related Documents:

A. Division 1 - General Requirements and Section SP-25.01 GENERAL PROVISIONS FOR ELECTRICAL WORK, apply to the work of this Section.

1.2 Description:

A. This Section covers, unless otherwise noted, Electric Service Requirements and Distribution Equipment in accordance with the drawings and specifications, including but not limited to the following:

1. Circuit breakers

B. Conforming to NEMA, ANSI, and IEEE standards.

1.3 Electric Service Requirements:

A. The electrical service is existing.

1.4 Shop Drawings:

A. General: Refer to 'Submittal' specification in Section SP-25.01 for additional requirements.

B. Circuit Breakers: Catalog cuts, schedules, IC rating, and dimensions.

PART 2 – PRODUCTS

2.1 Grounding:

A. General:

1. This paragraph covers, unless otherwise noted, providing of Grounding System Equipment in accordance with the drawings and specifications, as noted. Ground equipment and systems noted.
2. Ground conductors - Copper, size as follows:
   a. Outdoor metallic equipment and hardware: Bare 1/0.
   b. Miscellaneous equipment: As noted.
3. Ground clamps: Bronze, solderless type with bronze screws, suitable for receiving noted conductors.

2.2 Molded Case Circuit Breakers:

A. Thermal-magnetic, quick-make, quick-break; manually operated with insulated trip-free handle, and terminals suitable for copper cable. Multi-pole types, with common internal trip bar.

B. Auxiliary devices for: shunt-tripping, alarm indication where indicated, and current limiters where noted.

C. Frames, IC rating and interchangeable trips: match existing.

PART 3 – EXECUTION

3.1 Installation:

A. Grounding system:

1. Ground the following equipment and systems in accordance with the National Electric Code and local code authorities as required.
   a. Ground noncurrent carrying metal parts of distribution panels, switchboards, transformer enclosures, raceways, busway enclosures, controller enclosures, and other electrical equipment.
2. Miscellaneous grounding: Ground - miscellaneous equipment, as noted, and outdoor lighting standards.

3.2 Test:

A. Circuit breakers: Open and close all load break switching devices under load.

B. Ground system: Test for continuity of ground at service switches, switchboards, panelboards, transformers, and motor controllers.

PART 4 – COMPENSATION

The quantities to be paid for under Sections 25.01, 25.02, 25.03, and 25.04 of these Specific Provisions shall be for through the following Pay Items - complete, in place and accepted. Such price and payment shall be full compensation for all work specified under those sections and shall include all materials, equipment, tools, and labor necessary to complete the work. Payment shall be made under:

Item No.	Description	
SP-25.03-1	Sectional Ground Rod (3/4" x 20')	Per Each
SP-25.03-2	Exothermic Weld	Per Each
SP-25.03-3	Ground Clamp	Per Each
SP-25.03-4	Inspection Box	Per Each
SP-25.03-5	#2/0 Bare Copper Ground Conductor	Per Linear Foot
SP-25.03-6	GFI Receptacle w/ Box & Cover	Per Each
SP-25.03-7	Receptacle Circuit Connection	Lump Sum
SP-25.03-8	¾" PVC Coated GRS Conduit	Per Linear Foot
SP-25-03-9	#8 THWN Copper	Per Linear Foot

SP-25.04 LIGHTING FIXTURES

PART 1 – GENERAL

1.1 Related Documents: Division 1, General Provisions, and SP-25.01 GENERAL PROVISIONS FOR ELECTRICAL WORK, apply to the work of this Section.

1.2 Description:

A. This Section covers, unless otherwise noted, providing of Lighting Fixtures in accordance with the drawings and specifications.

B. Provide: Fixtures, components and lamps.

1.3 Basic Requirements:

A. High Intensity Discharge: 208 volt, except as noted. 60 hertz.

B. Sheet metal fixture housing: welded construction, with exceptions noted under fixture types.

C. Fixtures with baffles riveted or welded to housing not acceptable.

D. Fixture catalog numbers used to illustrate equipment type do not necessarily denote required mounting equipment or accessories. Provide accessories to suit. Written descriptions and drawings take precedence.

E. Chains, springs, hinges or other fastening devices required on apertures, reflectors and baffles: removable from fixture housings.

1.4 Shop Drawings:

A. Content: Details of construction and finishes.

B. Drawings: to scale (indicate scale).

1. Catalog cuts without required details not acceptable. Photometrics: photometric data including optical performance rendered by independent testing laboratory developed according to methods of USA Illuminating Engineering Society, as follows:
   a. For down and semi-down lights used for general illumination:
      1) Co-efficients of utilization.
      2) Visual Comfort Probability data.
      3) Candlepower data, presented graphically and numerically
      4) Zonal lumens stated numerically in 10-degree increments.
   b. For other fixtures: Candlepower curves, presented graphically and numerically, in 10-degree increments.
   c. For area and roadway luminaries: Isocandela charts, co-efficients of utilization, and IES roadway distribution classification.

C. Refer to "Submittal" specification in Section SP-25.01 for additional requirements.

PART 2 – PRODUCTS

2.1 Fixture Construction:

A. Free of light leaks.

B. Ventilation for: lamps and ballast.

C. Outdoor fixtures: provide approved wire mesh screens for ventilation opening.

D. Weatherproof and vaportight fixture finishes: Weatherproof enamel, galvanized or epoxy, including hangers.

2.2 Lamp Holders:

A. High intensity discharge:

1. Body: porcelain. Socket: nickel-plated brass, pre-lubricated with silicone compound.

2.3 Ballasts:

A. High intensity discharge:

1. Encased and potted where subject to moisture.

2. For indoor and non-weatherproof use: UL listed type 1.
3. For outdoor use: UL listed type 2.
4. Constant wattage auto-transformer or constant wattage type.
5. Suitable to operate within plus or minus 10 percent voltage variation.
6. Drop-out voltage: 66 percent of nominal.
7. Suitable to operate in: Indoor heated or air conditioned spaces: 60 degrees F to 105 degrees F (10 degrees C to 40 degrees C) ambient. Outdoors or unheated spaces: -20 degrees F to 105 degrees F (-29 degrees C to 40 degrees C).
8. Insulation: Class H, 375 degrees F (180 degrees C).
9. All fluorescent and high-intensity discharge ballasts approved for operating with standard and energy saving lamps.

2.4 Contact Surfaces:

A. Aluminum to bronze:

1. Apply paint product to both surfaces designed to avoid corrosion between dissimilar metals.

B. Aluminum to concrete:

1. Apply coating of polyurethane base paint, or asphaltum or equal.

2.5 Wiring:

A. 120/208 volt luminaire wiring: 300 volt, 302 degrees F (150 degrees C), Type AF or SFF, beginning at separately mounted outlet box.

B. Splices: mechanical spring pressure connector or crimp connector. Wire nuts: not permitted.

2.6 Finishes:

A. Painted surfaces, except as noted:

1. Synthetic enamel, with acrylic, alkyd, epoxy, polyester, or polyurethane base, light stabilized, baked on at 177 degrees C minimum catalytically or photochemically polymerized after application.
2. White finishes: minimum of 85 percent reflectance.
3. Metal parts: cleaned and treated with phosphate or chromate bonding process, after fabrication, for maximum paint adhesion.

B. Unpainted aluminum surfaces:

1. Satin anodized, except as noted.
2. In outdoor locations, to meet Aluminum Association standards for outdoor coatings.
3. Plastic lenses and diffuser: destaticize.
4. Reflectors and baffles: free of marks, labels or blemishes.

2.7 Fixture Types:

A. Refer to electrical drawings for fixture types specified.

PART 3 – EXECUTION

3.1 Locations:

A. On drawings: diagrammatical.

B. Fixture rows: in straight lines, except as noted.

3.2 Mounting:

A. Refer to manufacturer's installation details and applicable codes for required fixture mounting accessories.

B. Replace blemished, damaged or unsatisfactory fixtures, as directed.

3.3 Fixture Labeling for Lamp Identification:

A. Installation:

1. One lamp identification label for each lamp specified in the fixture schedule.
2. One label provided for two lamps when two or more fluorescent lamps are in the same fixture and not separated by a ballast: locate label between lamps so that when either lamp is out, label can be read.
3. Applied in field by Electrical Contractor
4. Cool fixture before installing.

B. Location:

1. Not seen by general observers
2. Readily seen when lamp is changed
3. Not attached where temperature exceeds rating of label or adhesive.

C. Construction:

1. Label: aluminum foil with temperature range from 4.4 degrees C to 149 degrees C.
2. Adhesive: permanent with temperature range from 17 degrees C to 149 degrees C.
3. Inscription: "Caution, relamp only with (ANSI lamp code)."

3.4 Fixture Schedule: Refer to electrical drawings.

CONCRETE FLOATING PIER FOR SMALL CRAFT

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

ACI INTERNATIONAL (ACI)

ACI 211.2	(1998; R 2004) Standard Practice for Selecting Proportions for Structural Lightweight Concrete
ACI 304R	(2000) Guide for Measuring, Mixing, Transporting, and Placing Concrete
ACI 305R	(1999; Errata 2006) Hot Weather Concreting
ACI 306.1	(1990; R 2002) Standard Specification for Cold Weather Concreting
ACI 309R	(2005) Guide for Consolidation of Concrete
ACI 318/318R	(2005; Errata 2005) Building Code Requirements for Structural Concrete and Commentary

AMERICAN WELDING SOCIETY (AWS)

AWS D1.4	(2005; Errata 2005) Structural Welding Code - Reinforcing Steel

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C1	(2003) All Timber Products - Preservative Treatment by Pressure Processes
AWPA C18	(2003) Standard For Pressure Treated Material in Marine Construction
AWPA C28	(2003) Standard for Preservative Treatment of Structural Glued Laminated Members and Lamination Before Gluing of Southern Pine, Coastal Douglas Fir, Hemfir and Western Hemlock by Pressure Processes
AWPA C33	(2003) Standard for Preservative Treatment of Structural Composite Lumber by Pressure Processes
AWPA M4	(2002) Standard for the Care of Preservative-Treated Wood Products
AWPA P5	(2005) Standard for Waterborne Preservatives

ASTM INTERNATIONAL (ASTM)

ASTM A 36	(2005) Standard Specification for Carbon Structural Steel
ASTM A 123	(2002) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 153	(2005) Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
ASTM A 185	(2007) Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete
ASTM A 307	(2007a) Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength
ASTM A 407	(2007) Standard Specification for Steel Wire, Cold-Drawn, for Coil-Type Springs
ASTM A 497	(2007) Standard Specification for Steel Welded Wire Reinforcement, Deformed, for Concrete
ASTM A 563	(2007) Standard Specification for Carbon and Alloy Steel Nuts
ASTM A 615	(2007) Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A 706	(2006a) Standard Specification for Low-Alloy Steel Deformed and Plain Bars for Concrete Reinforcement
ASTM A 767	(2005)Standard Specification for Zinc Coasted (Galvanized) Steel Bars for Concrete Reinforcement
ASTM A 775	(2007b) Standard Specification for Epoxy-Coated Steel Reinforcing Bars
ASTM A 780	(2001; R 2006) Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
ASTM C 1107	(2007a) Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink)
ASTM C 94	(2007) Standard Specification for Ready-Mixed Concrete
ASTM C 150	(2007) Standard Specification for Portland Cement
ASTM C 173	(2009) Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method
ASTM C 260	(2006) Standard Specification for Air-Entraining Admixtures for Concrete
ASTM C 272	(2001; R 2007) Water Absorption of Core Materials for Structural Sandwich Constructions
ASTM C 330	(2005) Standard Specification for Lightweight Aggregates for Structural Concrete

ASTM C 494	(2005a) Standard Specification for Chemical Admixtures for Concrete
ASTM C 578	(2007) Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation
ASTM C 595	(1997) Blended Hydraulic Cements (Metric)
ASTM C 618	(2005) Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
ASTM C 989	(2006) Standard Specification for Ground Granulated Blast-Furnace Slag for Use in Concrete and Mortars
ASTM D 256	(2006a) Determining the Izod Pendulum Impact Resistance of Plastics
ASTM D 570	(1998; R 2005) Standard Test Method for Water Absorption of Plastics
ASTM D 638	(2003) Standard Test Method for Tensile Properties of Plastics
ASTM D 792	(2000) Density and Specific Gravity (Relative Density) of Plastics by Displacement
ASTM D 2240	(2005) Standard Test Method for Rubber Property - Durometer Hardness
ASTM D 3963	(2007) Standard Specification for Epoxy-Coated Steel Reinforcing Steel
ASTM D 4020	(2005) Ultra-High-Molecular-Weight Polyethylene Molding and Extrusion Materials
ASTM D 5456	(2007) Evaluation of Structural Composite Lumber Products
ASTM F 593	(2003; R. 2008) Standard Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F 594	((2008) Standard Specification for Stainless Steel Nuts
ASTM F 844	(2007) Washers, Steel, Plain (Flat), Unhardened for General Use

EUROPEAN COMMITTEE FOR STANDARDIZATION (CEN/CENELEC)

EN 60309-1	(1999) Plugs, Socket-Outlets and Couplers for Industrial Purposes Part 1: General Requirements - IEC 60309-1
EN 60309-2	(1999) Plugs, Socket-Outlets and Couplers for Industrial Purposes Part 2: Dimensional Interchangeability Requirements for Pin and Contact-Tube Accessories - IEC 60309-2
EN 60529	(1991; Amendment 2000) Degrees of Protection Provided By Enclosures (IP Code)

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C57.12.29	(1999) Pad-Mounted Equipment - Enclosure Integrity for Coastal Environments

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA ICS 6	(2006) Standard for Industrial Controls and Systems Enclosures

PRECAST/PRESTRESSED CONCRETE INSTITUTE (PCI)

PCI MNL-116	(1999) manual for Quality Control for Plants and Production of Structural Precast Concrete Products
PCI MNL-120	(2004) Design Handbook - Precast and Prestressed Concrete

SOCIETY OF AUTOMOTIVE ENGINEERS INTERNATIONAL (SAE)

SAE AMS-QQ-A-200/8	(1997; R 2007) Aluminum Alloy 6061, Bar, Rod, Shapes, Tube, and Wire, Extruded

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

FS A-A-55619B	(2003) Casters, Industrial, Heavy Duty

UNDERWRITERS LABORATORIES (UL)

UL 1686	(1998; Rev thru Dec 2001) Pin and Sleeve Configurations
UL 231	(1998; Rev thru Jul 2006) Power Outlets
UL 489	(2004; Rev thru Jun 2006) Standard for Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures
UL 943	(2006) Ground-Fault Circuit-Interrupters
UL 98	(2004; Rev thru Apr 2006) Enclosed and Dead-Front Switches

1.2 MODIFICATIONS TO REFERENCES

In the ACI publications, the advisory provisions shall be considered to be mandatory, as though the word "shall" has been substituted for "should" wherever it appears; reference to the "Building Official," the "Structural Engineer" and the "Architect/Engineer" shall be interpreted to mean the Owner’s Representative.

1.3 SUBMITTALS

The following shall be submitted in accordance with the Submittal Procedures described in the Contract Documents.

SD-02 Shop Drawings

Drawings of Precast Floats

Prior to fabrication of the dock system components, submit shop drawings signed and sealed by a Civil Engineer holding a valid Certificate of Registration in the State of Florida. The shop drawings shall indicate the proposed berth layout and size, float module dimensions, float module construction details, connection details, and location and methods for attaching utilities and accessories. Submit shop drawings for all specially fabricated items including dock anchors, hinges, hinge plates, connections, cleat installation and catalog sheets for all standard manufactured items that are to be incorporated into the floating dock system.

Drawings of Gangways

SD-03 Product Data/Catalog Cut Sheets

Anchorage and lifting inserts and devices

Cleats

Bumper strips & corner bumpers

Signage

Receptacle Stations

Guide Pile Caps

SD-05 Design Data

Precast Concrete Floats Design Calculations

Prior to ordering dock system materials, submit final design calculations signed and sealed by a Civil or Structural Engineer holding a valid Certificate of Registration in the State of Florida. The calculations shall demonstrate that the floating dock system, using the criteria specified herein as minimum requirements, is designed to withstand the specified loads without damage.

Concrete Mix Design

Gangway Design

SD-06 Certified Test Reports

Contractor-Furnished Mix Design

Submit copies of test reports showing that the mix has been successfully tested to produce concrete with the properties specified and will be suitable for the job conditions. Obtain approval before concrete placement.

Timber and timber treatment

Float module materials

Fasteners

Portland Cement and Fly Ash

Aggregates

Admixtures

Reinforcement Steel

Structural Steel and Aluminum

Foam water absorption

SD-07 Certificates

Fabrication

Rubbing Surface

SD-08 Documents

Dock Manufacturer's Experience

Prior to ordering the dock system, submit experience data verifying the dock system supplier's required years of experience in the manufacture and installation of concrete floating docks including the project location, date of installation, and Owner (including the name, address, phone number of a person who can be contacted for verification). A previous installation of the proposed system for this project shall be included.

Quality Control Plan

Prior to ordering the dock system, submit quality control plan to be used during the manufacture and installation of the floating dock system.

Operation & Maintenance Manual

Prior to completion of the dock system, submit operation and maintenance procedures manual for all floating dock system components. The manual shall include instructions, recommended frequencies of maintenance and maintenance procedures and materials by brand name and specification. All data shall be on 8 1/2 by 11 inches (and 11 by 17 inches, folder to fit) sheets of paper bound together in a book with a protective cover. The binder external cover shall be identified as "Floating Dock System Operation and Maintenance Procedures".

Float Module Record

Prior to completion of the dock system, submit a complete and accurate record of all float modules manufactured. The record shall include assigned float identification number, date cast, related concrete cylinder strength tests and all quality assurance tests and inspection items performed on the float module.

Warranty

Prior to completion of the dock system, submit warranty for dock system.

The individual floating dock modules shall carry a warranty against defects in materials and workmanship for a period of ten (10) years from the date of project acceptance. All other dock system components including structural members and accessory items shall carry a warranty against defects in materials and workmanship for five (5) years from the date of project acceptance. If within the respective warranty periods any materials or their installation are found to be defective, the Contractor shall repair or replace the defective item to the satisfaction of the Owner and at no cost to the Owner. This warranty excludes coverage for damage caused by abuse, misuse or neglect, and improper maintenance unless the Contractor is obligated to provide warranty maintenance under the terms of the contract. The Contractor shall provide warranty maintenance for the dock system and include the cost therefore in his bid price.

1.4 PRECAST FLOATS

The work includes the provision of precast, non-prestressed concrete floating pier modules herein referred to as precast floats, and all other items relating to the precast floating pier system. Precast floats shall be the product of a manufacturer specializing in the production of precast concrete floats with a minimum of 10 years experience in the manufacture of precast concrete floating piers. The dock system design being proposed for this project shall have been successfully installed for a minimum of 5 years at another location.

1.5 DESIGN CRITERIA

ACI 318/318R and the PCI MNL-120. Design precast floats (including connections) for the design load conditions and spans indicated, and for additional loads imposed by the work of other trades. Design precast floats for handling without cracking in accordance with the PCI MNL-120.

1.5.1 Design Loads

A. Dead Load

Dead load shall consist of the weight of float modules, framing, wale system, attachment steel, miscellaneous connection devices, and all other permanently attached accessories such as utilities, dock boxes (which shall have an added 100 lbs. nominal contents for weight calculations), fire protection equipment, cleats, ramps, etc. Contractor shall exercise care to be sure that all dead loads are accurately determined and accounted for, including superimposed gangway loads, consideration of weight gain due to water absorption, and manufacturing tolerances that affect the final freeboard.

B. Live Load

1. Uniform Vertical Load (UVL) of 50 pounds per square foot of dock, including the area of landings and ramps supported by the dock.
2. Concentrated Vertical Load (CVL) of 400 Pounds applied at any location on the floating dock greater than 12-inches from an edge.

C. Wind Load (WL) on the projected area of a vessel/dock combination

1. Wind Pressure of 15 pounds per square foot minimum

2. Design Vessel Dimensions
   a. Overall Length = 30 feet
   b. Effective Profile Height = 5 feet
   c. Effective Beam Width = 12 feet

3. Wind Load Application
    a. Assume 100 percent berth occupancy.
    b. 100 percent applied to vessels in the unshielded berths or row.
    c. 15 percent applied to all vessels in the remaining (shielded) berths. To be considered "shielded", a vessel must be downwind of an equal (or larger) vessel, and berthed on the same main walkway.
    d. Transverse Load on Vessel applied at the 1/3 and 2/3 points to the dock.
    e. Longitudinal Load on Vessel applied at vessel centerline to the dock.
    f. On docks where the berth length is not defined ('side-ties'), wind loads shall be based on the maximum vessel length (L) to be accommodated, spaced at 1.10 x L over the length of the dock.

D. Vertical Wave Load (VWL)

1. Wave height of 2 feet
2. Wave length equal to 50 feet
3. Wave direction (propagation) parallel to longitudinal axis of dock.

E. Impact Load (IL) due to impact of a vessel applied (Berthing Load)

1. Design Vessel Dimensions
    a. Overall length = 30 feet
    b. Docking weight = 5 tons
2. Vessel approach at a speed of 5 fps and an angle of 90 degrees from the dock.
3. On side-tie docks, impact loads shall be based on the maximum vessel length to be accommodated at the dock and applied midway between dock supports.

1.5.2 Combined loading cases for design:

Case 1 – Dead Load only, including superimposed Gangway Dead Load.

Case 2 – Dead Load + Uniform Vertical Load

Case 3 – Dead Load + Concentrated Vertical Load

Case 4 – Wind Load: Consider wind load cases parallel and perpendicular to axis of dock:

Case 4a – Dead Load + Parallel Wind Load + Vertical Wave Load

Case 4b – Dead Load + Perpendicular Wind Load

Case 5 – Dead Load + Impact Load

1.5.3 Performance

A. Precast float modules shall be sized so that a single module (excluding walers) is used to attain the indicated pier width. The use of more than one module connected side by side to attain pier width is unacceptable.

B. Freeboard under dead load only shall not be less than 17 inches nor exceed 19 inches. Precast floats shall be designed to float level under dead load only. Freeboard under combined dead and uniform or concentrated live load shall not be less than 10 inches.

C. The floating dock system shall be designed to float level under dead load. The deck of the float modules shall be level and flush upon completion within the following tolerances.

1. Dead load deck surface slope
   a. Transverse Direction: Not more than 1/8 inch per foot.
   b. Longitudinal Direction: Not more than 1 inch per 10 feet of length.
2. Assembly gap between adjoining concrete floats:
   a. Minimum 1/4 inch, Maximum 1/2 inch on ADA Accessible Routes, or 3/4 inch all others.
3. Vertical height difference between adjoining concrete floats, walers and deck panels: Maximum 1/4 inch on ADA Accessible Routes, or 3/8 inch all others.

D. Flotation units shall be located within the structure so as to be capable of supporting a 300-lb. moving point load in any area on a module without causing excessive rolling or tilting of the pier. The pier shall be capable of supporting a 400-lb. point load at 1 foot from the offshore end of the pier and lose no more than 4 inches of freeboard; and supporting a 300-lb. point load applied to the corner of the offshore end of the pier and loose no more than 2 inches of freeboard differential per 3 feet of pier width between the offshore corners.

1.5.4 Design Calculations:

A. Calculations for loads imposed by the handling and lifting methods to be employed shall be provided based on the concrete strength expected at the time of lifting or moving of the float modules.

B. The material strength properties, load factors and capacity reduction factors shall be as defined by the applicable code.

C. The design calculations shall include but not be limited to the following:

1. Determination of extreme fiber stresses in structural members for all load cases.
2. Stresses in the dock system connections for all load cases.
3. Transfer of moored vessel forces to cleats and to the dock system.
4. Transfer of dock system loads to anchorage system that considers the difference in the structural stiffness of the dock system and the guide piles of various length and section.
5. Transfer of forces at guide pile frames and connections.
6. Transfer of forces at dock modules and dock module connections.
7. Freeboard calculations for all float modules.
8. Transfer of guide pile loads to soil, including analysis of pile-soil interaction (required if Contractor elects to revise the guide pile design indicated on the Drawings).

1.5.5 Gangway Design

Provide gangways of prefabricated aluminum for floating pier access, including connections at the bulkhead and bearing on the floating pier. Gangway shall be designed in accordance with "Specifications for Aluminum Structures", AA, latest edition, using allowable stresses for bridges.

1.5.5.1 Gangway Loading

Gangways shall be subject to the same load conditions identified in the paragraph titled "Pier Loading", except for berthing, mooring, current, wave, and pile loading conditions. Additionally, the gangway bulkhead end connections shall be designed to withstand a lateral force equal to 20 percent of the total dead load and 50 percent of the live load acting simultaneously with the dead and live loads. Handrails shall be designed for the following independent load cases: 1) a continuous horizontal load of 20 PLF applied along the full length of the top rail, and 2) a horizontal point load of 250 lbs acting at any point along the top rail.

1.5.5.2 Performance

a. Gangways shall have a minimum clear walkway width of 4 ft., and an overall outside width not to exceed 5 ft. Length of gangways shall be as indicated on the drawings. Gangways shall have continuous handrails that are a minimum of 3.5 ft. above the walking surface, but not to exceed 3.75 ft.
b. Walking surface shall be skid resistant.
c. Gangway pier end connections shall allow unrestricted vertical movement through tidal variation. Gangway bearing on floating piers shall be fitted with UHMW polyurethane rollers of adequate bearing area. Gangways shall be fitted with hinged apron plates to assure a safe uniform transition between gangway and deck surfaces. Apron plates will be designed so as to not damage or mar the floating pier surface.
d. Maximum midspan deflection under live load shall not exceed L/240.
e. Contact between aluminum and dissimilar metals or concrete shall be avoided, except for the use of compatible stainless steel pins. Where potential for galvanic corrosion exists, the aluminum shall be isolated from direct contact with other metals or concrete by use of suitable non-conducting insulators or bushings.

1.5.6 Quality Control Procedures

PCI Quality Certification shall be in accordance with PCI MNL-116. At the precast manufacturer's option, in lieu of core samples, ACI 318/318R full-scale load tests may be performed. Perform on randomly selected precast floats, as directed by the Owner's Representative.

Product Quality Control shall be in accordance with PCI MNL-116 for PCI enrolled plants. Where precast floats are manufactured by specialists in plants not currently enrolled in the PCI "Quality Control Program," provide a product quality control system in accordance with PCI MNL-116 and perform concrete and aggregate quality control testing using an approved, independent commercial testing laboratory. Submit test results to the Owner's Representative.

1.6 DELIVERY, HANDLING AND STORAGE

Use all means necessary to protect materials before, during, and after delivery to the Work site, and to protect the installed work and materials of all other trades. Use extreme care in the off-loading of materials to prevent damage.

Deliver the materials to the Work site and store, all in a safe area, out of the way of traffic, and shored up off the ground surface.

Place identification numbers on all float modules (such they are not covered up after assembly) that conforms to the shop drawing numbering system. Also identify hardware and framing lumber and store separately from each other. Protect all metal products with adequate weatherproof outer wrappings.

In the event of damage caused by the Contractor, immediately make repairs and/or replacements necessary to the satisfaction of the Engineer at no additional contract cost.

1.7 FACTORY INSPECTION

At the option of the Owner's Representative, precast floats shall be inspected by the QC Representative prior to being transported to the job site. The Contractor shall give notice 14 days prior to the time the units will be available for plant inspection. Neither the exercise nor waiver of inspection at the plant will affect the Government's right to enforce contractual provisions after units are transported or erected.

1.8 QUALITY ASSURANCE

1.8.1 Drawing Information

Submit drawings indicating complete information for the fabrication, handling, and erection of the precast floats and gangways. Drawings shall not be reproductions of contract drawings. Design drawings of precast floats and gangways (including connections) shall be prepared and sealed by a registered professional engineer, and submitted for approval prior to fabrication. The drawings shall indicate, as a minimum, the following information:

a. Floating pier system layout
b. Marking of floats for assembly
c. Connections between floats, and connections between floats and other construction
d. Location and anchorage of mooring fittings
e. Waler size and splice pattern
f. Guide pile size, length, location and connection to pier
g. Reinforcing details
h. Material properties of all materials used
i. Lifting and assembly inserts and embedded items
j. Dimensions and surface finishes of each float
k. Erection sequence and handling requirements
l. All loads used in design (such as live, dead, wind, current, berthing, handling, and erection)
m. Bracing/shoring required
n. Gangways
o. Utility routing and connections for work of other trades

1.8.2 Design Calculations

Submit calculations reflecting design conforming to requirements of the design criteria. Design calculations of precast floats (including connections) shall be prepared and sealed by a registered professional engineer, and submitted for approval prior to fabrication. In addition to member sizing calculations, submit calculations for the pier system which include:

a. Anchorage attachment points to insure reactions shall be appropriately and rationally distributed throughout the system
b. Overall system loads under full occupancy, with consideration for shielding factors, and deflection of the system and its effects on anchor loading
c. Anchorage system capacity for individual and overall load considerations
d. Guide Pile size, length, cross section, and minimum embedment

1.8.3 Concrete Mix Design

Thirty days minimum prior to concrete placement, submit a mix design for each strength and type of concrete. Include a complete list of materials including type; brand; source and amount of cement, pozzolan, and admixtures; and applicable reference specifications.

PART 2 - PRODUCTS

2.1 CONTRACTOR-FURNISHED MIX DESIGN

ACI 211.2, using weight method. The minimum compressive strength of concrete at 28 days shall be 5500 psi in accordance with ASTM C 94. The fly ash contents shall be not less than 15% nor more than 25% by weight of total cementitious material. The maximum water-cement ratio shall be 0.40. Concrete shall be air-entrained in accordance with ACI 212.3R. The air content of freshly mixed concrete shall be between 2% and 5% tested in accordance with ASTM C 173.

2.2 PRECAST FLOAT MATERIALS

2.2.1 Cement

ASTM C 150, Type I or II, except as modified herein. Use one manufacturer for each type of cement, fly ash, and pozzolan.

2.2.1.1 Fly Ash and Pozzolan

ASTM C 618, Type F or C, except that the maximum allowable loss on ignition shall be 6 percent for Type F.

2.2.2 Water

Water shall be fresh, clean, and potable.

2.2.3 Aggregates

ASTM C33 or ASTM C 330, Size 8 (3/8 inch), except as modified herein. Obtain aggregates for exposed concrete surfaces from one source. Aggregates shall not contain any substance which may be deleteriously reactive with the alkalies in the cement. Lightweight aggregate shall consist of expanded and coated shale or equivalent material of sufficient strength and durability to provide concrete of the required strength.

2.2.4 Grout

2.2.4.1 Nonshrink Grout

ASTM C 1107/C 1107M.

2.2.4.2 Cementitious Grout

Shall be a mixture of Portland cement, sand, and water. Proportion one part cement to approximately 2.5 parts sand, with the amount of water based on placement method. Provide air entrainment for grout exposed to the weather.

2.2.5 Admixtures

2.2.5.1 Air-Entraining

ASTM C 260.

2.2.5.2 Accelerating

ASTM C 494, Type C or E.

2.2.5.3 Water Reducing

ASTM C 494 Type A, E, or F.

2.2.6 Reinforcement

All reinforcement shall be hot-dipped galvanized, ASTM A 123, ASTM A 153, ASTM A 775 or ASTM D 3963. Visible defects and cut ends shall be repair coated. Use stainless steel ties with reinforcement.

2.2.6.1 Reinforcing Bars

ASTM A 615 or ASTM A 706, Grade 60.

2.2.6.2 Welded Wire Fabric

ASTM A 185 or ASTM A 497. Provide flat sheets of welded wire fabric, rolled fabric is not acceptable. Maximum fabric grid is 50mm x 50mm (2 inch x 2 inch).

2.2.7 Metal Accessories

2.2.7.1 Embedments

ASTM F 593, Group 2, Type 316 L stainless steel with welded loop or horizontal bar hook

2.2.7.2 Structural Steel

Type 316 L stainless steel

2.2.7.3 Waler rods

ASTM A 307 and ASTM A 36. Rods shall be hot-dipped galvanized. Waler rods shall be continuous laterally through the pier, with a minimum diameter of 3/4 inch. All continuous waler rods shall be placed within PVC sleeves cast into the precast float modules. PVC sleeve shall be in accordance with ASTM D 2241, thin wall class, SDR 12.

2.2.7.3 Bolts

ASTM F 593, Group 2, Type 316 L stainless steel

2.2.7.4 Nuts

ASTM F 594, Group 2, Type 316 L series stainless steel

2.2.7.5 Washers

ANSI B 27.2, 300 series stainless steel

2.2.7.6 Cleats

Dock cleats shall be aluminum or cast iron, hot dipped galvanized open base cleats Type 504H as supplied by Henderson Marine Supply, or approved equal. Cleat locations and sizes shall be as indicated on the Drawings; attach cleats to the docks/walers in accordance with the dock manufacturers' recommendation.

2.2.8 Foam Core

Closed cell, expanded polystyrene (EPS), ASTM C 578. Foam core laminations shall be glued with a low solvent glue. Core shall not be made from more than four laminated sections. Horizontal laminations in the upper 10 inches are not permitted. Core shall be strapped to prevent de-lamination during transportation and handling. Core shall not contain more than 10 percent reground EPS foam material. Reground foam pieces shall not exceed 3/8-inch diameter.

Unit Weight:	0.95 – 1.25 PCF
Water absorption (ASTM C 272):	3 percent (by volume)
Dimensional tolerance:	+/- 1/8 inch

2.3 FABRICATION

PCI MNL-116 unless specified otherwise.

2.3.1 Precast Floats

Precast floats shall be cast monolithically, cold joints of any type are not acceptable. Modules shall have a minimum deck and wall thickness of 2 inches and 1 inch, respectively. Float bottom shall be either 1-inch thick concrete, similar to walls, or elastomer coating. Elastomer coating shall be polyethylene resin containing UV inhibitors and black in color. Precast float decks shall be constructed to drain freely and there shall be no floodable enclosed spaces.

2.3.2 Forms

Brace forms to prevent deformation. Forms shall produce a smooth, dense surface. Chamfer exposed edges of floats 1/2 inch, unless otherwise indicated. Form tolerance shall not exceed 1/8 inch dimensions indicated on shop drawings. When measured diagonally, floats more than 1/2 inch out of square shall be rejected.

2.3.3 Reinforcement Placement

ACI 318/318R for placement and splicing. Reinforcement may be preassembled before placement in forms.

2.3.4 Concrete

2.3.4.1 Concrete Mixing

ASTM C 94. Mixing operations shall produce batch-to-batch uniformity of strength, consistency, and appearance.

2.3.4.2 Concrete Placing

ACI 304R, ACI 305R for hot weather concreting, ACI 306.1 for cold weather concreting, and ACI 309R, unless otherwise specified. Concrete shall be vibrated internally and/or externally to assure a smooth, dense finish.

2.3.4.3 Concrete Curing

Commence curing immediately following the initial set and completion of surface finishing. Provide curing procedures to keep the temperature of the concrete between 50 and 190 degrees F. When accelerated curing is used, apply heat at controlled rate and uniformly along the casting beds. Monitor temperatures at various points in a product line in different casts. Cure for a minimum of seven days prior to transporting, launching and assembly.

2.3.5 Surface Finish

Precast floats containing hairline cracks which are visible and are less than 0.02 inch in width, may be accepted. Precast floats which contain cracks greater than 0.02 inch in width shall be approved by the Owner's Representative, prior to being repaired.

Any precast float that is structurally impaired or contains honeycombed section deep enough to expose reinforcing shall be rejected. Voids up to 1/2-inch diameter or 1/8-inch deep shall be patched with an approved epoxy group. Larger voids may only be repaired with the approval of the Owner's Representative.

On unformed surfaces, provide a steel troweled and broomed finish for pier deck surface. Slip resistant broomed deck finish shall be transverse to pier orientation. All deck edges shall have a 1/2-inch bull-nose radius with a minimum 1 1/2-inch-wide, smooth, hard steel finished face.

Formed surfaces shall be hard, dense, and as smooth as finished lumber. All surfaces to receive contacting lumber shall be smooth and true to within 1/32 inch.

2.3.6 Float Identification

All precast floats are to be clearly and permanently identified on one side and one end, between the bottom of the waler and the waterline. Identification shall include name of manufacturer, date of manufacture, specific float type, and job number.

2.4 TIMBER AND WOOD PRODUCTS

All walers shall be fabricated from parallel strand lumber (PSL) engineered structural beams. PSL structural beams shall be in accordance with ASTM D 5456. All other structural lumber shall be S4S structural Douglas Fir-Larch or Southern Yellow Pine.

2.4.1 Preservative Treatment

Treat wood to be used in contact with salt water or salt-water splash in accordance with AWPA C1 and C18 with waterborne preservative AWPA P5, (ACA - Ammoniacal Copper Arsenate, ACZA - Ammoniacal Copper Zinc Arsenate, CCA - Chromated Copper Arsenate) to 0.6 pcf retention. For glue-laminated, engineered structural beams, treat in accordance with AWPA C28 and AWPA C33 as applicable.

2.5 BUMPERS - ULTRA-HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMWPE)

Install all bumpers per manufacture's recommendation, using large headed non-staining aluminum or stainless steel nails.

2.5.1 Dock Bumpers

Dock Bumpers shall be extruded/molded from non-yellowing Marine Grade Vinyl Extra Weight Bumper Strip Item No. 03-10 as provided by Henderson Marine Supply, or approved equal. The bumper strip shall be applied to edges of all walkways and slip fingers.

2.5.2 Corner Bumpers

Outside corners shall be protected with a Henderson Universal 10-inch Corner Bumper Item No. 03-06A as supplied by Henderson Marine Supply or approved equal.

2.6 GUIDE PILES

Guide piles shall be steel piles; fabricated and installed in accordance with section 455 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction. Pile size, length, cross section and embedment shall be determined by pier manufacturer's design.

2.6.1 Guide Pile Caps

Provide heavy UV-resistant, low-density polyethylene piling caps with an estimated life in excess of 10 years. Caps shall be cone or pyramid shaped and attached to the piling top with stainless fasteners.

2.7 GANGWAYS

2.7.1 Aluminum

Aluminum alloy shall be 6061-T6. Extruded in accordance with the applicable requirements of SAE AMS-QQ-A-200/8.

2.7.2 Stainless Steel

Type 316 L.

2.7.3 Castings

F-214 Cast aluminum. Castings shall be true to pattern, structurally sound and free from blowholes or other defects.

2.7.4 Insulators

MIL-I-24768/14. Bushings or separation sheets shall be a minimum of 1/16-inch thickness.

2.7.5 Rollers

FS A-A-55619B, UHMW polyurethane, with UV inhibitors added. Color shall be black.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Installation shall be in accordance with approved shop drawings with connections tightened as required after complete installation of each unit of the work in the water and before final inspection.

B. All welding shall be performed by properly certified welders and shall conform to the current specifications of the American Welding Society.

C. Fasteners shall not protrude beyond the fascia into the berthing area. Fasteners protruding above the surface of the deck shall have a low, rounded profile.

D. Bolts shall be of the size required, with adequate thread length. Holes for all lag bolts and screws shall be pre-drilled and turned into place. Driving is not allowed.

E. Lumber shall be fabricated accurately to provide uniform gaps and butt joint connections. Lumber splices shall not exceed 1/2 inch between adjoining ends.

F. All walers, fascia, spacers, panels, or any other members, which are subject to foot traffic, shall be flush with the concrete walking surface.

G. All dock accessories shall be installed in accordance with the Drawings, Specifications and the manufacturer's recommended method of installation.

H. Schedule installation of dock accessories to avoid damage from other work.

3.2 DOCK SYSTEM TOLERANCES

A. Install floating dock system to the planned dimensions within the tolerances shown on the drawings or specified herein. Any float exceeding the allowable tolerances shall be removed and replaced.

B. Float Fabrication Tolerances (allowable variation of construction dimension from nominal dimension shown on the Drawings):

1. Float Width: +/- 2 inches from nominal float width
2. Float Depth: As required to satisfy freeboard requirements

Note: The above tolerances are intended to permit flexibility adapting available formwork for use on this project. Once the construction dimension is fixed by the Contractor, the more stringent casting tolerances shall govern.

C. Dock freeboard that is less than specified may be corrected by placing supplemental flotation under the dock only with the approval of the Engineer. Supplemental floats shall consist of polyethylene shells, 0.15 in. minimum thickness, encapsulating expanded polystyrene foam cores designed for complete submersion in water with no vents or air valves. The floats shall interlock with the dock to prevent lateral displacement without the use of adhesives or fasteners. Floats as manufactured by Flotation Solutions are deemed to conform with these requirements.

3.3 SURFACE REPAIR

Prior to erection, and again after installation, precast floats shall be checked for damage, such as cracking, spalling, and honeycombing. As directed by the Owner's Representative, precast floats that do not meet the surface finish requirements specified in Part 2 in paragraph entitled "Surface Finish" shall be repaired, or removed and replaced with new precast floats.

3.4 LAUNCH AND ASSEMBLY

Precast floats shall be launched after the concrete has attained the specified compressive strength, unless otherwise approved by the precast manufacturer. Assemble in accordance with the approved shop drawings. PCI MNL-116 and PCI MNL-120 (Chapter 8), for tolerances. Brace precast floats, unless design calculations submitted with the shop drawings indicate bracing is not required. Follow the manufacturer's recommendations for maximum construction loads.

3.5 ANCHORAGE

Provide anchorage for fastening work in place. Conceal fasteners where practicable. Make threaded connections up tight and nick threads to prevent loosening.

3.6 WELDING

AWS D1.4 or welding connections and reinforcing splices. Protect the concrete and other reinforcing from heat during welding. Weld continuously along the entire area of contact. Grind smooth visible welds in the finished installation. Welding of epoxy-coated reinforcing is not allowed.

3.7 OPENINGS

Holes or cuts requiring reinforcing to be cut, which are not indicated on the approved shop drawing, shall only be made with the approval of the Owner's Representative and the precast manufacturer. Drill holes less than 12 inches in diameter with a diamond tipped core drill.

3.8 GALVANIZING REPAIR

Repair damage to galvanized coatings using ASTM A 780 zinc rich paint for galvanized surfaces damaged by handling, transporting, cutting, welding, bolting, or acid washing. Do not heat surfaces to which repair paint has been applied.

3.9 GROUTING

Clean and fill indicated areas, solidly with nonshrink grout or cementitious grout. Provide reinforcing where indicated. Remove excess grout before hardening.

SP-18.01 BOLLARDS

General: Lighted Bollards shall be installed as directed in the Contract Plans, to the neat dimensions, elevations and indicated therein. During removal of existing bollard(s), protect, store and reinstall the bollard.

Compensation: The quantity to be paid for under this section shall be the number authorized, complete in-place and accepted. The plan count shall be used to determine the number of bollards for payment.

Payment for this quantity shall be paid for at the contract price in "SP-18.01 Bollards (Lighted) (Furnished & Installed)". Such price and payment shall be full compensation for all work specified under this section, including demolition of electrical conduit and wiring and removal of existing bollard(s) and shall include all materials, equipment, tools, labor and materials necessary to complete the work.

Payment shall be made under:

Item SP-18-01	Bollards (Lighted) (Furnish & Install)	Per Each

SP-18.02 LIGHT POLES

General: Light Poles shall be protected, stored and reinstalled as necessary for connection of receptacle circuits as directed and where indicated in the Contract Plans, to the neat dimensions, elevations and indicated therein.

Compensation: The quantity to be paid for under this section shall be the number authorized, complete in-place and accepted. The plan count shall be used to determine the number of light poles and foundations for payment.

Price and payment shall be full compensation for all work specified under this section and shall include all materials, equipment, tools, labor and materials necessary to complete the work.

Payment shall be made under:

Item SP-18.02	Light Poles (Removed & Reinstalled)	Per Each

SP-19 NOT USED

SP-20 NOT USED

SP-21 NOT USED

SP-22 NOT USED

SP-23 NOT USED

SP-24 NOT USED

SP-25.01 GENERAL PROVISIONS FOR ELECTRICAL WORK

PART 1 – GENERAL

1.1 Related Documents:

A. Conditions of the Contract - General Provisions apply to the work of this Section.
B. The provisions of this Section apply to each and every Section of this Provision.

1.2 Scope of Work:

A. Provide labor, material, equipment and services necessary for complete, safe installation of functioning systems in compliance with performance requirements specified and in conformity with all applicable codes and authorities having jurisdiction, including temporary light and power, cutting and patching and in general, the following Sections of these Specific Provisions:

SP-25.01	General Provision for Electrical Work
SP-25.02	Basic Electrical Materials and Methods
SP-25.03	Service and Distribution
SP-25.04	Lighting Fixtures

1.3 References and Definitions:

A. Refer to General Conditions and Conditions of the Contract for definitions applicable to the work of SP-25. In addition, the following definitions apply:

1. "Work": labor, materials, equipment, apparatus, controls, accessories and other items required for proper and complete installation.
2. "Wiring": raceway, fittings, wire, boxes and related items.
3. "Concealed": embedded in masonry or other construction installed in furred spaces within double partitions or hung ceilings, in trenches, in crawl spaces or in enclosures.
4. "Exposed": not installed underground or "concealed" as defined above.
5. "Indicated," "Shown," or "noted": as indicated, shown or noted on drawings or specifications.
6. "Similar" or "equal": equal in materials, weight, size, design and efficiency of specified product.
7. "Reviewed," "satisfactory," "accepted," or "directed": as reviewed, satisfactory, accepted or directed by or to Architect.
8. "Control Devices": automatic sensing and switching devices, such as, thermostats, pressure, float, electro-pneumatic switches and electrodes controlling operation of equipment.

B. Specifications are of simplified form, and include incomplete sentences, words or phrases, such as, "The Contractor shall," "shall be," "furnish," "provide," "a," "an," "the," and "all" have been omitted for brevity.

1.4 Applicable Publications:

The National Electrical Code and Publications of the Organizations listed below are referenced herein by the abbreviations noted in parentheses, with or without additional identifying symbols. Unless otherwise specified, all work shall be manufactured, tested and installed in accordance with the latest issues of such standards.

A. American Society for Testing and Materials (ASTM).

B. Underwriters' Laboratories, Inc. (UL).

C. Insulated Power Cable Engineers Association (IPCEA).

D. National Electrical Manufacturers Association (NEMA).

E. Institute of Electrical and Electronic Engineers (IEEE).

F. American National Standards Institute, Inc. (ANSI).

G. National Fire Protection Association (NFPA).

H. Southern Standard Building Code (SSBC).

I. Illumination Engineering Society (IES).

1.5 Electrical Characteristics:

A. Distribution: 120/208 volt, 3 phase, 4 wire, 60 hertz.

1.6 Drawings:

A. Electrical drawings considered to be diagrammatic indicating general arrangement of systems and equipment and are not to be used as erection drawings. They do not indicate every fitting, pull box, etc., which may be required to complete the job. Prepare field erection drawings, as required, to ensure proper installation.

B. Electrical Drawings indicate the general arrangements of circuits and outlets, location of switches, panelboards, conduit and other work. All outlets shall be located uniformly with respect to beams, structures, etc.

C. For exact locations of structural elements, refer to dimensioned structural drawings. Field measurements take precedence over dimensioned drawings.

1.7 Record Drawings:

A. For requirements, refer to Conditions of the Contract.

1. Keep a complete set of all electrical drawings in job site office for showing actual installation of electrical systems and equipment.
2. Use this set of drawings for no other purpose.
3. Where any material, equipment, or system components are installed differently from that shown, indicate differences clearly and neatly using ink or indelible pencil.
4. At project completion, submit record set of drawings (see Division 1).

1.8 Submittals:

A. Standard Products: Materials and equipment essentially the standard products of a manufacturer regularly engaged in the manufacture of the product. They shall essentially duplicate materials and equipment that have been in satisfactory use for at least two years, except where a longer period is indicated.

B. A manufacturer's statement indicating compliance with the applicable standard of the American Society for Testing and Materials, National Electrical Manufacturers Association, or other commercial standard, is acceptable.

C. The Contractor shall provide a letter of concurrence, acquired by the Contractor, from Hillsborough County regarding the attachment of the lighting fixtures, conduit and all other associated entities to the Platt Street Bridge.

1.9 Operation and Maintenance Manual:

A. Prepare maintenance manuals, and in addition to the requirements specified in General Provisions, include the following information for equipment items:

1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and catalog numbers of replacement parts.
2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair and reassembly; aligning and adjusting instructions.
4. Servicing instructions and lubrication charts and schedules.

PART 2 – PRODUCTS

2.1 Quality of Materials:

A. New, free from defects and listed by Underwriters' Laboratories, Inc.

2.2 Inserts and Supports:

A. Stainless steel for supports:

1. Shop fabricate for field assembly using stainless steel bolts.
2. Maximum loading 75 percent of rating.
3. Supports from construction: inserts, beam clamps, steel fishplates (in concrete fill only), cantilever brackets or other means. Submit for review.
4. Grouped lines and services: trapeze hangers or bolted angles or channels.

2.3 Prime Paint and Touch Up:

A. Paint:

1. Best grade for its purpose
2. Deliver in original sealed containers
3. Apply in accordance with manufacturer's instructions
4. Colors: as selected.

B. Galvanized iron primer: panel and pull boxes, after fabrication.

C. Hot dipped galvanized or dipped in zinc-chromate: outlet boxes junction boxes, conduit hangers, rods, inserts and supports.

D. Red lead or zinc-chromate with finish to match surroundings: marred surfaces of steel equipment iron work.

2.4 Labeling:

A. Nameplates:

1. Engraved phenolic nameplates for switchboards, panelboards and motor control centers.
2. Pressure embossed label for remote starters and disconnect switches.
3. Inscription: subject to review, indicating equipment and voltage.
4. Provide for:
   a. Disconnect Switches
   b. Panelboard and Load Centers
   c. Lighting Contactors
   d. Time Clocks
   e. Cabinets

B. Panelboard typewritten directories.

PART 3 – EXECUTION

3.1 General:

A. Use only thorough, highly skilled, and experienced workmen.

B. Provide all necessary offsets and crossovers in conduits, raceways, cabletrays and ducts.

C. Install exposed conduits parallel to structure and vertically plumb, unless otherwise indicated.

3.2 Cutting and Patching:

A. Provide cutting, fitting, repairing, patching and finishing of installed work.

1. Include installed work of other sections where it is necessary to disturb such work to permit installation of electrical work.
2. Repair or replace existing or new work disturbed.

B. Install sleeve conduits under existing sidewalk with open cutting or removal of sidewalk. At the other locations, avoid cutting, where possible, by setting sleeves or frames, and by requesting openings in advance.

C. Before cutting, obtain approval of the City.

1. Use only approved methods.
2. Cut all holes neatly and as small as possible to admit work.
3. Do not weaken walls or slabs; locate holes in concrete to miss structural sections.

D. Locate openings and sleeves to permit neat installation of conduits and equipment.

3.3 Protection of the Work:

A. Protect the work against damage from all causes. Provide and maintain protective coverings to exclude dirt, dust, paint, etc., from equipment to prevent entrance of dirt or construction material.

B. Equipment Cleaning: All equipment shall be thoroughly cleaned upon completion of the work. Cleaning shall be in accordance with Conditions of the Contract of these Specifications. All dust, dirt, spatter of paint, plaster and other materials and all stains and discolorations of the factory finish shall be removed. Finishes shall be restored to original condition.

C. Damage Repair and Replacement: Prior to acceptance of work, repair all damaged equipment, cables, surfaces and finishes equal to new. Replace broken work and damaged conduit with new.

D. Prevention of Corrosion: All metallic materials shall be protected against corrosion. Exposed metallic parts of outdoor apparatus shall be given a rust-inhibiting treatment and standard finish by the manufacturer. Aluminum where connected to dissimilar metal shall be protected by approved fittings and treatment. All parts such as boxes, bodies, fittings, guards, and miscellaneous parts made of ferrous metals, but not of corrosion-resistant steel, shall be zinc-coated in accordance with ASTM A123 or A153, except where other equivalent protective treatment is specifically approved in writing by the Owner.

3.4 Installation:

A. Install and connect all appliances and equipment as specified and as shown on the contract drawings in accordance with the manufacturer's instructions and recommendations. Furnish and install complete electrical connections recommended by the manufacturer, and as required for proper operation. Before roughing in outlets, verify locations, voltage, phase, current rating and type of outlet required from approved shop drawings of the equipment; for Owner furnished equipment verify same from shop drawing or visual inspection of equipment. Except as otherwise shown on the contract drawings, provide a flush junction box in the wall beneath the operating level of the equipment and connect to the equipment with flexible conduit. Equipment having built-in switches shall be completely wired as required. Plugs and cords on equipment shall be replaced, shortened or lengthened to suit the outlets furnished.

B. Provide all necessary anchoring devices and supports.

1. Use structural supports suitable for equipment.
2. Check loadings and dimensions of equipment with shop drawings.
3. Do not cut, or weld to, building structural members.

C. Verify that equipment will fit support layouts indicated.

1. Where substitute equipment is used, revise indicated supports to fit at no additional cost.

D. Install equipment to permit easy access for normal maintenance.

1. Maintain easy access to switches, pull boxes, receptacles, etc.
2. Relocate items which interfere with access.

E. Provide tamperproof screws on all light fixtures, device plates, etc.

3.5 Coordination:

A. Interferences between trades must be determined before work is fabricated or installed. The Contractor must thoroughly familiarize himself with all details of the work and working conditions and coordinate the work during the preliminary stages to ensure that actual erection will proceed without such interference. The coordination is of paramount importance; and no request for additional payment will be considered where such request is based upon interference.

B. Where job conditions require reasonable deviations from contract documents, make such deviations without additional cost to Owner after obtaining Owners approval in writing.

C. Within the limits indicated on drawings, provide the maximum practicable space for operation, repair, removal and testing of electrical equipment. Verify prior to submission of shop drawings, that each submitted component of electrical equipment will properly fit and function within its allotted space, and will properly interface with the work of other trades.

D. Conduits, wireways and similar items, shall be kept as close as possible to ceiling, structure, walls and columns to take up a minimum amount of space. Locate such items so that they will not interfere with the intended use of other equipment.

E. Furnish and install all offsets, fittings and similar items necessary to accomplish the requirements of coordination without additional expense to Owner.

F. Electrical systems shall be provided complete to all points of connection and service as shown on drawings.

G. Do not use equipment exceeding dimensions indicated or arrangements that reduce required clearances.

3.6 Examination of Existing Conditions:

A. Visit and carefully examine those portions of the site and/or present buildings affected by this work so as to become familiar with existing conditions and difficulties that will attend the execution of the work before submitting proposals.

B. Submission of a proposal will be construed as evidence that such examination has been made and later claims for labor, equipment or materials required because of difficulties encountered, which would have been foreseen had such examination been made, will not be recognized.

3.7 Connections to Existing Work:
Plan installation of new work and connections to existing work to insure minimum interference with regular operation of existing facilities.

3.8 Moving of Equipment:
Where necessary, ship in crated sections of size to permit passing through available spaces.

3.9 Accessibility:
Group concealed electrical equipment requiring access with equipment freely accessible through access doors.

3.10 Noise and Vibration:
Exceeding specified limits or due to faulty equipment or workmanship: correct, as directed, without additional cost to the owner.

3.11 Field Quality Control:

A. Perform indicated tests to demonstrate workmanship, operation, and performance.

1. Conduct tests in presence of Architect/Engineer and, if required inspectors of agencies having jurisdiction.
2. Arrange date of tests in advance with Architect/Engineer, manufacturer and installer.
3. Furnish or arrange for use of electrical energy, steam, water, diesel fuel or gas required for tests.
4. Furnish all lubricating material required for test.

B. Repair or replace equipment and systems found inoperative or defective and retest.

1. If equipment or system fails retest, replace it with product conforming to Contract Documents.
2. Continue remedial measures and retests until satisfactory results are obtained.

C. Test equipment and systems as indicated for each item, unless otherwise recommended by manufacturer.

3.12 Final Performance Test:

A. Perform panel load balance, short circuit and freedom from ground (including ground fault protection where provided), at completion of installation.

B. Submit results for review.

3.13 Adjust and Clean:

A. Inspect all equipment and put in good working order.

B. Clean all exposed items.

C. Where new work occurs in existing areas where no other work has been done, clean area and restore to original condition.

3.14 Putting System In Operation - Start Up:

A. Put all systems into satisfactory operation prior to final acceptance, at time agreed to by General Contractor, Owner and Engineer.

B. Operate all systems in good working for period of 5 working days.

PART 4 – COMPENSATION

The quantities to be paid for under Sections 25.01, 25.02, 25.03, and 25.04 of these Specific Provisions shall be for through the following Pay Items - complete, in place and accepted. Such price and payment shall be full compensation for all work specified under those sections and shall include all materials, equipment, tools, and labor necessary to complete the work. Payment shall be made under:

Item No.	Description	
SP-25.03	Conduit (Furnish & Install Trenched)	Per Linear Foot
SP-25.04	Conduit (Furnish & Install Walkway)	Per Linear Foot
SP-25.05	Junction Boxes and Fittings	Per Each
SP-25.06	Conductor (Furnish & Install)	Per Linear Foot
SP-25.09	Pull Box	Per Each
SP-25.10	Deck Light (Bollard) (Furnish & Install)	Per Each
SP-25.11	Walk Light (Bollard) (Furnish & Install)	Per Each

SP-25.02 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 – GENERAL

1.1 Related Documents:

A. Division 1 - General Provisions and Section SP-25.01 - General Provisions for Electrical Work, apply to the work of this Section.

1.2 Description:

A. This Section covers, unless otherwise noted, Basic Electrical Materials and Methods in accordance with the Drawings and Specifications.

1.3 Shop Drawings:

A. Submit shop drawings for, but not limited to the following:

1. Wires and cables.
2. Device plates.
3. Raceway and fittings.

B. Refer to 'Submittal' specification in Section SP-25.01 for additional requirements.

PART 2 – PRODUCTS

2.1 Raceways:

A. Complete system of raceways including conduits, fittings, sleeves, wireways, handholes, manholes, and required accessories.

B. Conduits:

1. Polyvinyl chloride conduit (PVC): Self-extinguishing, UL approved; concrete encased, and direct burial: heavy wall, schedule 40 and/or 80.
2. Rigid galvanized steel PVC coated; UL approved; exterior surface mounted.
3. Rigid galvanized steel; bituminous coated; UL approved, underground.
4. HDPE, UL approved; directionally drilled.

2.2 Wires and Cables:

A. Complete system of conductors, cables and accessories.

B. Conductors:

1. Applicable standards: ASTM, or approved equivalent.
2. Size references: AWG except as noted.
3. Type: Copper, solid No. 10 and smaller, stranded No. 8 and larger.

C. Sizes:

1. General use: No. 12 minimum.
   At 120 volts and over, 100-ft. circuit length: No. 10 minimum.
2. Other voltages and phases: As required, to maintain equivalent voltage drop.
3. Increase raceway sizes for larger wire, as required.

D. Insulation:

1. Rubber and thermoplastic: ASTM and IPCEA standards.
2. 600-volt class.

E. Types:

1. XHHW or THWN 75 deg. C, flame retardant, moisture and heat resistant, thermoplastic, used for feeders and branch circuits, except as noted.
2. USE: 75 deg. C, heat and moisture resistant, used for feeders and branch circuits direct buried and in raceways located underground, in concrete slabs and masonry in direct contact with earth, and in permanently moist locations.
3. Color coding: As per code.
   a. Where color-coded cable is not available, certify in writing and request permission for overlap color taping conductors (minimum length 6 ft.) in accessible locations.

F. Accessories:

1. Feeders: Indicate feeder number, size, phase and points of origin and terminations.
2. Terminations, splices and taps under 600 volts:
   a. Copper conductors No. 10 and smaller: With watertight compression type or twist-on spring-loaded connectors and clear nylon insulated covering.
   b. Copper conductors No. 8 and larger: Mechanical bolted pressure or hydraulic compression type using manufacturer's recommended tooling.
   c. Cable lugs and connectors: Compression type of same metal as conductors. Provide to match cable, with marking indicating size and type.
   d. Copper lug connections to bus bars: Use antisieze compound on tang.

G. Boxes:

1. Outlet Boxes: Except as otherwise required by construction, devices or wiring.
2. Outdoor and damp locations: Weatherproof PVC.
3. Without fixture or device, blank cover.

H. Junction and Pull Boxes: FRP, NEMA 4X, threaded hubs and gaskets.

PART 3 – EXECUTION

3.1 Installation of Raceways:

A. Install as indicated.

3.2 Installation of Supports:

A. Strap hangers or wall brackets.

B. Secure raceways to supports with pipe straps or U-bolts.

C. Spacing: As indicated or required.

D. Mount supports to structure with expansion shields or inserts on concrete, rawl plugs or wood plugs are not permitted.

E. Exposed: Run parallel with or at right angles to walls.

F. Polyvinyl Chloride Conduit (PVC): Cut ends square, ream smooth, wipe clean, apply approved solvent cement and quarter turn as drawing up tight.

3.3 Installation of Boxes:

A. Outlet boxes:

1. Set boxes square and true with building finish.
2. Secure to building structure by adjustable strap irons.
3. Verify outlet locations in finished spaces with architectural drawings of interior details and finishes.

B. Panel, Junction and Pull Boxes:

1. Location: Clear of other trades and accessible.
2. Support: From structure, independent of conduit.

C. Expansion Fittings:

1. Provide at expansion joints where indicated or required and on length of runs in accordance with manufacturers recommendations.
2. Outdoor installations: Weatherproof, except as noted.

D. Wire and Cable Installation:

1. Not more than 3 lighting or convenience outlet circuits in one raceway, unless otherwise indicated.
2. Pull no thermoplastic wires at temperatures lower than 32 degrees F.

3.4 Installation of Devices:

A. Install all switches and outlets to bear evenly and true.

3.5 Cable Tests:

A. Continuity and insulation tests: 600 volts: megger 100 percent of feeders.

B. Submit full details of testing procedure, test levels and certified test results for approval. Perform prior to connecting equipment and in presence of authorized representative.

C. Submit written report of results.

D. Correct or replace cable testing below manufacturer's standards.

SP-25.03 SERVICE AND DISTRIBUTION

PART 1 – GENERAL

1.1 Related Documents:

A. Division 1 - General Requirements and Section SP-25.01 GENERAL PROVISIONS FOR ELECTRICAL WORK, apply to the work of this Section.

1.2 Description:

A. This Section covers, unless otherwise noted, Electric Service Requirements and Distribution Equipment in accordance with the drawings and specifications, including but not limited to the following:

1. Circuit breakers

B. Conforming to NEMA, ANSI, and IEEE standards.

1.3 Electric Service Requirements:

A. The electrical service is existing.

1.4 Shop Drawings:

A. General: Refer to 'Submittal' specification in Section SP-25.01 for additional requirements.

B. Circuit Breakers: Catalog cuts, schedules, IC rating, and dimensions.

PART 2 – PRODUCTS

2.1 Grounding:

A. General:

1. This paragraph covers, unless otherwise noted, providing of Grounding System Equipment in accordance with the drawings and specifications, as noted. Ground equipment and systems noted.
2. Ground conductors - Copper, size as follows:
   a. Outdoor metallic equipment and hardware: Bare 1/0.
   b. Miscellaneous equipment: As noted.
3. Ground clamps: Bronze, solderless type with bronze screws, suitable for receiving noted conductors.

2.2 Molded Case Circuit Breakers:

A. Thermal-magnetic, quick-make, quick-break; manually operated with insulated trip-free handle, and terminals suitable for copper cable. Multi-pole types, with common internal trip bar.

B. Auxiliary devices for: shunt-tripping, alarm indication where indicated, and current limiters where noted.

C. Frames, IC rating and interchangeable trips: match existing.

PART 3 – EXECUTION

3.1 Installation:

A. Grounding system:

1. Ground the following equipment and systems in accordance with the National Electric Code and local code authorities as required.

a. Ground noncurrent carrying metal parts of distribution panels, switchboards, transformer enclosures, raceways, busway enclosures, controller enclosures, and other electrical equipment.

2. Miscellaneous grounding: Ground - miscellaneous equipment, as noted, and outdoor lighting standards.

3.2 Test:

A. Circuit breakers: Open and close all load break switching devices under load.

B. Ground system: Test for continuity of ground at service switches, switchboards, panelboards, transformers, and motor controllers.

SP-25.04 LIGHTING FIXTURES

PART 1 – GENERAL

1.1 Related Documents: Division 1, General Provisions, and SP-25.01 GENERAL PROVISIONS FOR ELECTRICAL WORK, apply to the work of this Section.

1.2 Description:

A. This Section covers, unless otherwise noted, providing of Lighting Fixtures in accordance with the drawings and specifications.

B. Provide: Fixtures, components and lamps.

1.3 Basic Requirements:

A. High Intensity Discharge: 208 volt, except as noted. 60 hertz.

B. Sheet metal fixture housing: welded construction, with exceptions noted under fixture types.

C. Fixtures with baffles riveted or welded to housing not acceptable.

D. Fixture catalog numbers used to illustrate equipment type do not necessarily denote required mounting equipment or accessories. Provide accessories to suit. Written descriptions and drawings take precedence.

E. Chains, springs, hinges or other fastening devices required on apertures, reflectors and baffles: removable from fixture housings.

1.4 Shop Drawings:

A. Content: Details of construction and finishes.

B. Drawings: to scale (indicate scale).

1. Catalog cuts without required details not acceptable. Photometrics: photometric data including optical performance rendered by independent testing laboratory developed according to methods of USA Illuminating Engineering Society, as follows:
   a. For down and semi-down lights used for general illumination:
      1) Co-efficients of utilization.
      2) Visual Comfort Probability data.
      3) Candlepower data, presented graphically and numerically
      4) Zonal lumens stated numerically in 10-degree increments.
   b. For other fixtures: Candlepower curves, presented graphically and numerically, in 10-degree increments.

c. For area and roadway luminaries: Isocandela charts, co-efficients of utilization, and IES roadway distribution classification.

C. Refer to "Submittal" specification in Section SP-25.01 for additional requirements.

PART 2 – PRODUCTS

2.1 Fixture Construction:

A. Free of light leaks.

B. Ventilation for: lamps and ballast.

C. Outdoor fixtures: provide approved wire mesh screens for ventilation opening.

D. Weatherproof and vaportight fixture finishes: Weatherproof enamel, galvanized or epoxy, including hangers.

2.2 Lamp Holders:

A. High intensity discharge:

1. Body: porcelain. Socket: nickel-plated brass, pre-lubricated with silicone compound.

2.3 Ballasts:

A. High intensity discharge:

1. Encased and potted where subject to moisture.
2. For indoor and non-weatherproof use: UL listed type 1.
3. For outdoor use: UL listed type 2.
4. Constant wattage auto-transformer or constant wattage type.
5. Suitable to operate within plus or minus 10 percent voltage variation.
6. Drop-out voltage: 66 percent of nominal.
7. Suitable to operate in: Indoor heated or air conditioned spaces: 60 degrees F to 105 degrees F (10 degrees C to 40 degrees C) ambient. Outdoors or unheated spaces: -20 degrees F to 105 degrees F (-29 degrees C to 40 degrees C).
8. Insulation: Class H, 375 degrees F (180 degrees C).
9. All fluorescent and high-intensity discharge ballasts approved for operating with standard and energy saving lamps.

2.4 Contact Surfaces:

A. Aluminum to bronze:

1. Apply paint product to both surfaces designed to avoid corrosion between dissimilar metals.

B. Aluminum to concrete:

1. Apply coating of polyurethane base paint, or asphaltum or equal.

2.5 Wiring:

A. 120/208 volt luminaire wiring: 300 volt, 302 degrees F (150 degrees C), Type AF or SFF, beginning at separately mounted outlet box.

B. Splices: mechanical spring pressure connector or crimp connector. Wire nuts: not permitted.

2.6 Finishes:

A. Painted surfaces, except as noted:

1. Synthetic enamel, with acrylic, alkyd, epoxy, polyester, or polyurethane base, light stabilized, baked on at 177 degrees C minimum catalytically or photochemically polymerized after application.
2. White finishes: minimum of 85 percent reflectance.
3. Metal parts: cleaned and treated with phosphate or chromate bonding process, after fabrication, for maximum paint adhesion.

B. Unpainted aluminum surfaces:

1. Satin anodized, except as noted.
2. In outdoor locations, to meet Aluminum Association standards for outdoor coatings.
3. Plastic lenses and diffuser: destaticize.
4. Reflectors and baffles: free of marks, labels or blemishes.

2.7 Fixture Types:

A. Refer to electrical drawings for fixture types specified.

PART 3 – EXECUTION

3.1 Locations:

A. On drawings: diagrammatical.

B. Fixture rows: in straight lines, except as noted.

3.2 Mounting:

A. Refer to manufacturer's installation details and applicable codes for required fixture mounting accessories.

B. Replace blemished, damaged or unsatisfactory fixtures, as directed.

3.3 Fixture Labeling for Lamp Identification:

A. Installation:

1. One lamp identification label for each lamp specified in the fixture schedule.
2. One label provided for two lamps when two or more fluorescent lamps are in the same fixture and not separated by a ballast: locate label between lamps so that when either lamp is out, label can be read.
3. Applied in field by Electrical Contractor
4. Cool fixture before installing.

B. Location:

1. Not seen by general observers
2. Readily seen when lamp is changed
3. Not attached where temperature exceeds rating of label or adhesive.

C. Construction:

1. Label: aluminum foil with temperature range from 4.4 degrees C to 149 degrees C.
2. Adhesive: permanent with temperature range from 17 degrees C to 149 degrees C.
3. Inscription: "Caution, relamp only with (ANSI lamp code)."

3.4 Fixture Schedule: Refer to electrical drawings.

City of Tampa – DMI Sub-(Contractors/Consultants/Suppliers) Payments [ ] Partial [ ] Final

This form must be completed in its entirety, signed, and submitted with each payment request.

Contract No.: _____WO#,(if any)_____ Contract Name: _____
Contractor Name: _____ Address _____
Federal ID _____ Phone _____ Fax _____ Email _____
GC Pay Period _____ Payment Request/Invoice Number:_____ City Department: _____
Total Amount Requested for pay period:_____ Total Contract Amount(including change orders):_____

Type of Ownership - (F=Female M=Male), BF BM = African Am., HF HM = Hispanic Am., AF AM = Asian Am., NF NM = Native Am., CF CM = Caucasian S = SLBE

Type Trade/Work Activity []Sub []Supplier Federal ID	Company Name Address Phone & Fax	Total Sub Contract Or PO Amount	Amount Paid To Date Amount Pending Previously Reported	Amount To Be Paid For This Period Sub Pay Period Ending Date
			$	$
			$	$
			$	$
			$	$
			$	$
			$	$
			$	$
			$	$
			$	$

Certification: I hereby certify that the above information is a true and accurate account of payments to sub –contractors/consultants on this contract.

Signed _____ Name/Title _____ Date: _____

Instructions for Completing The DMI Sub-(Contractors/Consultants/ Suppliers) Payment Form (DMI-Payments)

This form must be submitted with all invoicing or payment requests for any contract with subcontracting. The following will detail what data is **required** for this form:

The instructions that directly follow pertain to the project and prime:
Contract No. - Number assigned by the City of Tampa for the bid or proposal
W.O.# - Work Order Number, if one has been designated
Contract Name - Name of the contract assigned by the City of Tampa for the bid or proposal
Contractor Name - Name of your business
Address - Physical address of your business
Federal ID - Number assigned to your business for tax reporting purposes
Phone - Telephone number to contact business
Fax - Fax number for your business
Email – Your business email address for electronic correspondence
Pay Period - Start and Finish dates for pay period. (e.g. 05/01/07 – 05/31/07)
Payment Request/Invoice Number - Sequential number for payment requests. (e.g. "3" for pay request three)
City Department. The City of Tampa department to which the contract pertains
Total Amount Requested for pay period - Dollar amount you are expecting to receive for the pay period.
Total Contract Amount (including change orders) - Total contract amount. This includes any approved change orders that may have increased or decreased the original contract amount.
Signed/Name/Title/Date - This is your certification that the information provided on the form is accurate.
See attached documents - Check this box (located at the bottom of the form) if you have provided any additional documentation relating to the payment data.
Partial Payment - Check this box (located at the top right of the form) if the request is for a partial payment.
Final Payment - Check (located at the top right of the form) only if the request is for the final payment.

The following instructions are for information about any and all subcontractors used for the contract:
(Type) of Ownership – SLBE status, Ethnicity, and Gender of the owner of the subcontracting business
Trade/Work Activity - The trade, service, or material provided by the subcontractor
SubContractor/SubConsultant/Supplier - Category that applies to the firm on this contract
Federal ID - Number assigned to a business for tax reporting purposes - **This item of information is critical** for the proper identification of the subcontractor in the DMI system.
Company Name, Address, Phone & Fax - Company information for verification of payments
Total Subcontract Amount - Total amount of subcontract including change orders
Amount Paid To Date - All dollar amounts paid to date for the subcontractor
Amount Pending, Previously Reported – Any amount previously reported that payments are pending
Amount To Be Paid for this Period - Dollar amount of dollars requested for the pay period
Sub Pay Period Ending Date – Ending date for pay period which subcontractor invoiced performed work

To be considered complete, the form must be completed, and then signed by a company authorized representative certifying that the information is true and accurate. This document must be completed in order to comply with the City of Tampa's Equal Business Opportunity Program.

Note: If you use an electronic version of the form, BE SURE TO INCLUDE EVERY DATA FIELD.

If any additional information is required or you have any questions, you may call the Minority Business Development Office at (813) 274-5522.

CITY OF TAMPA - PROJECT SIGN
REVISED 9/12/11

Investing in Neighborhoods

Project Manager :
Jim Hudock, PE
DPW Construction Engineer
City of Tampa

Phone : (813) 635-3400
Email : jim.hudock@tampagov.net

contractor name here

City of Tampa Improvement Project

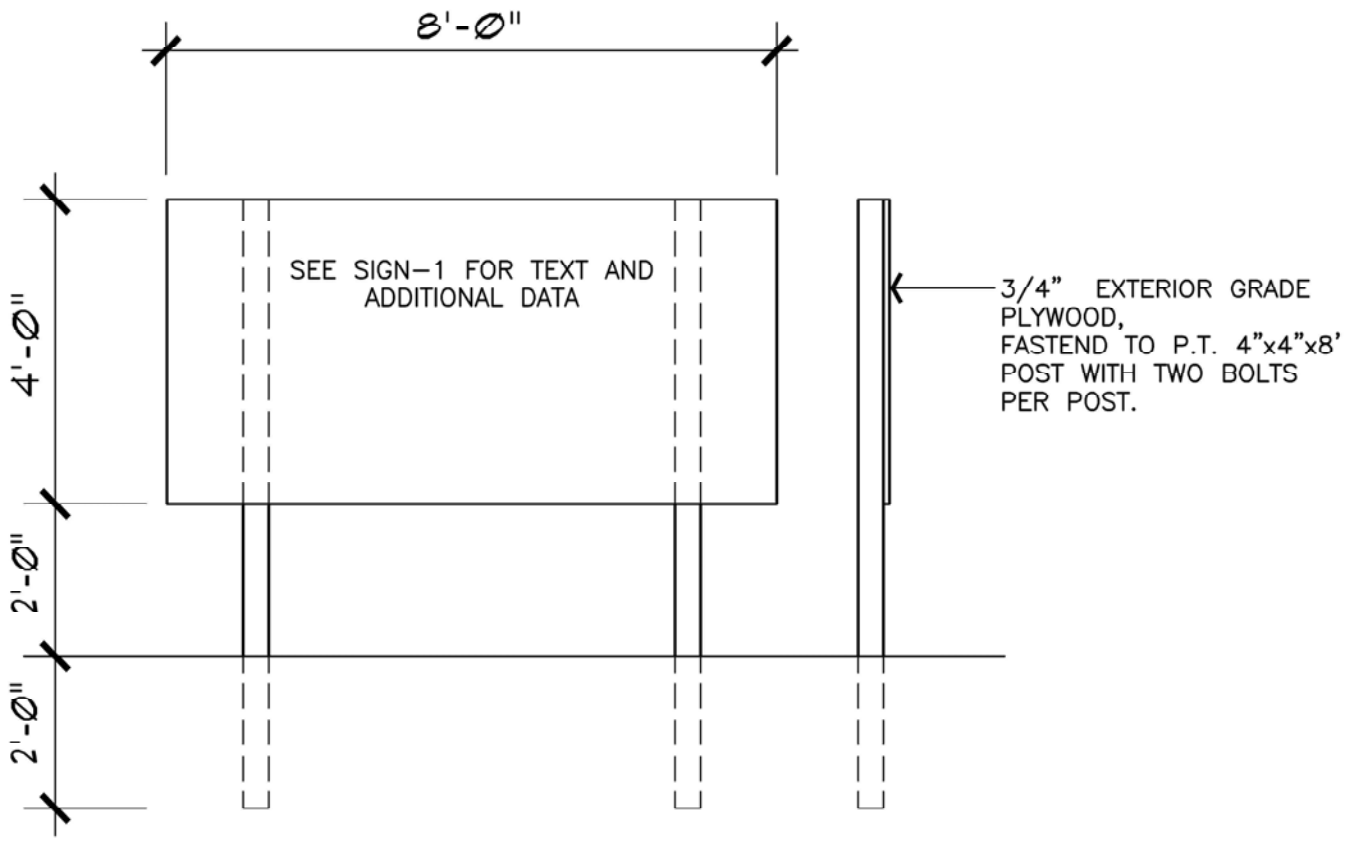
brief project description (2 - 3 lines)

total appropriated cost (round off) - duration of construction
Scheduled for completion in *(date)*

supplemental project description (max. 2 lines)

For information, please call : (813) 635-3400

NOTES :
1. Letter Color : Black, Font : **Times New Roman**, bold.
2. Background Color (front, back and edges) : Benjamin Moore Paint, Natural Wicker OC-1.
3. Post Color : Black.
4. Contractor shall verify text with the City prior to sign fabrication.


8'-0"
4'-0"
2'-0"
2'-0"
SEE SIGN-1 FOR TEXT AND ADDITIONAL DATA
3/4" EXTERIOR GRADE PLYWOOD, FASTEND TO P.T. 4"x4"x8' POST WITH TWO BOLTS PER POST.

SECTION 02440
UNDERGROUND SPRINKLER

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

Furnish all materials, equipment and labor as necessary for the installation of an irrigation system per the drawings and specifications. All work should meet City of Tampa standards for materials and workmanship.

Related Work:
1. Section 02900: Trees, Plants and Groundcovers
2. Section 02930: Sodding

1.2 RELATED DOCUMENTS:

A. Drawing and general provisions of Contract, including General Provisions, Supplementary General Provisions, Special Conditions, and Division – 1 Specification sections apply to work specified in this section.

1.3 DESCRIPTION OF WORK:

A. Location of underground sprinkler system is shown on drawings if provided.

B. Design and Installation of system is included in this section.

1.4 QUALITY ASSURANCE:

A. On-Site Observation: At any time during the installation of the irrigation system by the Contractor, the City of Tampa may visit the site to observe work underway. Upon request, the Contractor shall be required to undercover specified work as directed by the City of Tampa without compensation. Should the materials, workmanship or method of installation not meet the standards specified herein, the Contractor shall replace the work at his own expense.

B. Workmanship: All work shall be installed by skilled personnel, proficient in the trades required, in a neat, orderly and responsible manner with recognized standards of workmanship. The Contractor shall have had considerable experience and demonstrated ability in the installation of sprinkler irrigation systems of this type.

1.5 SUBMITTALS:

A. Product Data: Submit manufacturer's technical data for all materials and installation instructions for underground sprinkler system.

B. Drawings: Upon award of bid a phase design showing general layout shall be submitted prior to final design. Final design must be approved before starting construction and will include plan layout and details illustrating location and type of heads, valves, piping circuits, controls and accessories. If requested by the City, provide design calculations demonstrating how system component sizes were derived.

1.5 SUBMITTALS (continued):

C. Format: The irrigation system as-built design shall be done digitally or on a 24"x34" reproducible mylar, to scale. These plans shall be provided to the City of Tampa prior to final acceptance of the project.

PART 2 – PRODUCTS

2.1 MATERIALS:

A. Irrigation Pipe: All main and lateral lines shall be PVC pipe ASTM D1785 1120 schedule 40. Exception would be galvanized steel pipe, when specified, and if exposed painted with 2 coats of forest green enamel.

B. Pipe Size: Increased to allow expansion or nozzle size change.
   1. No flow shall exceed 4' per second.
   2. All laterals to heads will be 1" or larger on rotors and ¾" on pop-ups.
   3. Nozzle and zone size will be calculated to provide maximum precipitation rate to reduce watering time based on meter size.

C. Pipe Fittings:
   1. ASTM D 2466 socket fittings schedule 40 shall be used for PVC pipe with ASTM A 2564 solvent cement and purple primer.
   2. ANSI B 16.3 galvanized malleable iron screwed fittings shall be used for all galvanized pipe.

D. Subsurface Irrigation:
   1. Rainbird Dripline w/approx. 1 GPH emitters & 12 inch spacing shall be used for subsurface irrigation. Length of run not to exceed manufacture recommendations.
   2. Compression fittings are to be used for subsurface irrigation.
   3. Each zone shall have an in-line pressure reducer matched to the system and a filter with at least 200 mesh or better.
   4. Flush caps to be installed on each zone as needed.

E. Manual Valves: Manufactured as follows: Cast bronze body Ball valves unless otherwise indicated.

F. Electric Valves: Irritrol 200B series electric valve with flow control. AC or DC depending upon power source. If DC is specified a separate common wire for each 4 zones must be installed. Master valve to be used with more than 2 zones.

G. Automatic Valve Wiring: 14 guage direct burial wire, color coded as follows: red for zones, white for common, blue for master valve and black for extras. Two black extra wires to be run to the furthest valve in each direction. Wire splices shall be made at a common location, contained in a valve box and spliced using greased filled King wire nuts. All wire to be brought to timer location with 6' pigtail to facilitate hook-up.

H. Backflow Preventer: –Top Ported – Double Check Vacuum Breaker sized to match the system and installed underground in a valve box.

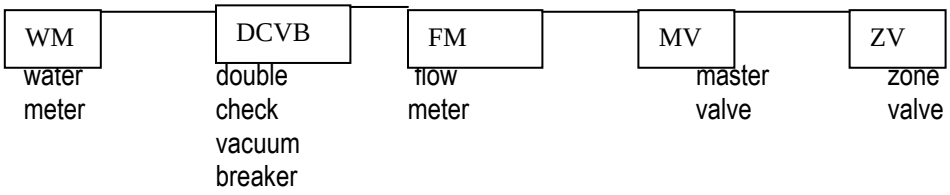
2.1 MATERIALS (continued):

I. Sprinkler Heads: Manufacturer's standard unit designed to provide uniform coverage over entire area of spray shown on drawings at available water pressure and installed using K-Flex pipe and schedule 40 PVC connectors as follows:
   1. Rainbird Bubbler: #1402 – 0.5 GPM on K-Flex pipe (2 per tree).
   2. Rainbird Pop-up: 1800 series with nozzle to match application.
   3. Hunter rotor: Hunter I-20 with nozzle to match application.
   4. Drip or micro (Maxi-Jet): to be matched to job and used only with Parks Department approval.

J. Valve Box: Plastic valve box with cover, size as needed, or as specified on drawings.

K. Automatic Control System:
1. Exterior Control Enclosure: Manufacturer's standard weatherproof enclosure with locking cover, complying with NFPA 70 (National Electric Code).
2. Interior Control Enclosure: Manufacturer's standard with locking cover, complying with NFPA 70.
3. Controller Type: Specified by City of Tampa.
4. Provide Mini-Click model 502 Rain Sensor on all systems.

L. Computerized Irrigation: One or more of the following may be indicated per system
1. Irrinet: 200 programs with 126 inputs (handles 48 hard wire and the balance Scorpio or Impacts or any combination).
2. Scorpio: 8 or 16 programs with 2 or 4 inputs (usually runs off Irrinet via radio).
3. Impact: remote control (radio) individual valve controller.
4. Computerized systems shall utilize a flow meter by Master Meter Inc. matched to the water meter size, with a 1 or 10 gallon pulse depending on zone GPM.
5. Wiring from flow meter to timer must be 14-2 Maxicomm cable. No splices should be made in the Maxicomm cable.
6. Power source at timer should be A/C. D/C (requires special wiring) used only if all sources of A/C have been exhausted.



M. Reclaimed Water: Any system that is to be connected to reclaimed water or is indicated to have reclaimed in the near future shall have all materials of the appropriate color to indicate the use of reclaimed water.

PART 3 – EXECUTION

3.1 SYSTEM DESIGN:

A. Design Pressures: Verify available pressure prior to system design. Design system throughout compatible with available water source.

3.1 SYSTEM DESIGN (continued):

B. Location of Heads: Design locations in accordance with accepted sprinkler practice to provide head to head coverage. Make minor adjustments as necessary to avoid plantings and other obstructions.

C. Minimum Water Coverage:

Turf areas, 100%.
Other planting areas, 100%.

Layout may be modified, if necessary to obtain coverage, to suit manufacturers standard heads. Do not decrease number of heads indicated unless otherwise acceptable to Engineer and/or Architect.

D. Group valves in one or two locations when possible and minimize the number of zones as is practical. Planting beds, trees and turf areas shall be on separate zones

E. No flow shall exceed 4 feet per second.

F. Design zones to have matched precipitation rates.

G. Do not use pressure-regulating sprinklers.

H. Insert sprinklers 3 inches from curb to allow for edging.

3.2 ELECTRIC SERVICE:

A. Contractor shall include in bid price all costs associated with providing electric power to system. This includes, but is not limited to, coordination with TECO to provide service, connection fees, preparation of riser diagram sufficient for obtaining Electrical Permit, and all materials and labor for a complete functioning system.

3.3 TRENCHING AND BACKFILLING:

A. General: Protect existing utilities, paving, plants, trees and other facilities caused by irrigation operations. Contractor shall be responsible for the repair of any damage to existing utilities and paving. Excavate straight and true with bottom uniformly sloped to low point.

B. Sunshine: Contractor shall be responsible for notifying underground utilities 48 hours prior to beginning work at (800) 432-4770.

C. Trench Depth: Excavate trenches to a depth of 18" below grade, unless otherwise indicated.

D. Minimum Cover: Provide 18" minimum cover over top of installed piping for conventional irrigation systems. Low Volume Systems header & footers shall be installed 5"to 6" under top cover unless otherwise specified. Drip line tubing on the surface should be pinned down at 3' intervals.

3.3 TRENCHING AND BACKFILLING (continued):

E. Backfill: Backfill with clean material from excavation. Remove organic material as well as rocks and debris larger than 1" diameter. Place acceptable backfill material in 6" lifts, compacting each lift.

F. Existing Lawns: Where trenching is required across existing lawns, trench no wider than necessary to accommodate pipes.
   1. Backfill trench to within 6" of finished grade. Continue fill with acceptable topsoil and compact to bring area to the elevation of existing lawn.
   2. If trench is more than 6" in width relay or plant new sod within 7 days after removal, roll and water generously.
   3. Re-seed and restore to original condition any sod areas not in healthy condition equal to adjoining lawns 30 days after replanting.

G. Existing Trees: All trenching or other work under the limb spread of any and all trees shall be done by hand or by other methods so that no limbs or branches are damaged in any way.
   1. Trenching, per existing tree schedule below, shall be done to minimize root disturbance. City of Tampa representative prior to beginning, to determine limits of root pruning shall approve any work-taking place within 10' of protected tree. All other tree roots shall be severed cleanly per the City of Tampa Site Clearing Ordinance.

Existing Tree Schedule

1" caliper	3' from tree trunk
2" caliper	4' from tree trunk
3" caliper	6' from tree trunk
4" caliper	8' from tree trunk
6" caliper	10' from tree trunk

SECTION 02440
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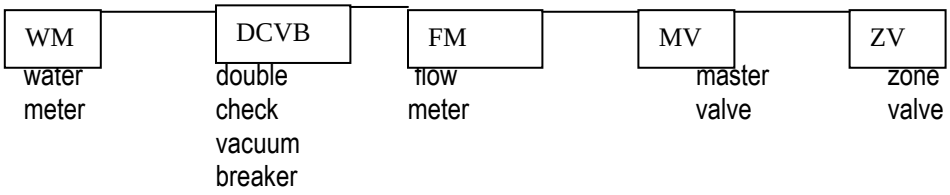

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PART 3 – EXECUTION

3.1 SYSTEM DESIGN:

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3.1 SYSTEM DESIGN (continued):

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E. No flow shall exceed 4 feet per second.

F. Design zones to have matched precipitation rates.

PART 2 - PRODUCTS

2.1 MATERIALS:

A. Plants: Provide plants typical of their species or variety; with normal, densely-developed branches and vigorous, fibrous root systems. Provide only sound, healthy vigorous plants free from defects, disfiguring knots, sunscald injuries, frost cracks, abrasion of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces.

1. All plant material shall be "Florida No.1", or better.

2. Dig balled and burlapped plants with firm, natural balls of earth of diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable.

3. Container-grown stock: Grown in container for sufficient length of time for the root system to have developed to hold its soil together, firm and whole.

   a. No plants shall be loose in the container.

   b. Container stock shall not be pot bound.

4. Trees with included bark will not be accepted. Trees shall have a minimum of five (5) feet of trunk free from branching, unless otherwise specified.

5. Sanding of palm tree trunks will not be accepted. Palm tree fronds shall be tied up to protect bud from stress and damage. Fronds shall be tied with a material that will decompose naturally.

6. Plants planted in rows shall be matched in form.

7. Plants larger than those specified in the plant list may be used when acceptable to the City of Tampa representative.

   a. If the use of larger plants is acceptable, increase the spread of roots or root ball in proportion to the size of the plant.

8. The height of the trees, measured from the crown of the roots to the average height of the top of the tree, shall not be less than the minimum size designated in the plant list. Container size designated, if any, shall be minimum size required.

9. No pruning wounds shall be present with a diameter of more than 1" and such wounds must show vigorous bark on all edges.

10. Height and spread requirements, of shrub and groundcover material, indicated in the plant list shall prevail over container size indicated, unless otherwise specified.

11. Shrubs and small plants shall conform to the following standards:

H. Pavements: Where existing pavements must be crossed to install landscape irrigation system, either saw cut straight clean lines 6" wider than trench or bore. Boring being the preferred method.
   1. Excavate trench to required depth and width.
   2. Remove cut out pavement and excavated material from the site.
   3. At walkways, jack piping under paving material if possible.
   4. Backfill with dry sand fill material, placing in 6'inch lifts.
   5. Repair or replace pavement cuts with equivalent materials and finishes.
   6. If a concrete sidewalk is cut or damaged the full section must be replaced.

3.4 INSTALLATION: (see details in plans)

A. General: Contractor shall be responsible for filing and obtaining any and all agency permits. Al work must conform to City of Tampa and the uniform plumbing code. Any work taking place along a city, county or state road or median must comply with appropriate regulating authority guidelines for Traffic Control for Construction and Maintenance Operations.

3.4 INSTALLATION (continued): (see details in plans)

B. Connection to Main: Connect to project side of meter in location.

C. Backflow Preventer: Top ported DCVB installed underground in a rectangular valve box with 6" gravel sump. Box of adequate size for easy testing access. If above ground or PVB provide union on upstream side of main control valve and make piping out of ground galvanized.

D. Control Valves: Install in valve box, arrange for easy adjustment and removal.
   1. Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit.

E. Piping: Lay pipe on solid subbase uniformly sloped without humps:
   1. Install PVC pipe in dry weather when temperature is above 40 degrees F in strict accordance with manufacturer's instructions. Allow joints to cure at least 24 hours at temperatures above 40 degrees F (4 degrees C) before testing, unless otherwise recommended by manufacturer. All PVC connections will be cleaned with purple primer prior to cementing.

F. Sprinkler Heads: Flush circuit lines with full pressure and install nozzles after hydrostatic test is completed.
   1. Install all heads at manufacturer's recommended heights.
   2. Locate part-circle heads to maintain a minimum distance of 4" from walls and 2" from other boundaries, unless otherwise indicated.
   3. After completion of grading, seeding or sodding, and rolling of the grass areas carefully adjust lawn sprinkler heads so they will be flush with grade.
   4. Pop-ups installed on ½" flex using schedule 40 PVC connectors.
   5. Rotors to be installed on appropriate size flex using schedule 40 PVC connectors.

G. Low Volume: See details
   1. Drip line should be on surface and pinned every 3' using staples at least 6" in length.
   2. Headers & footers to be under 5" to 8" of soil.
   3. Flush compelled system before installing flush valve.
   4. Flush caps are to be installed in a 6" valve box with a 6" diameter by 3" deep sump filled with gravel.

H. Dielectric Protection: Use dielectric fittings at connection where pipes of dissimilar metal are joined.

3.5 ACCEPTANCE:

A. Maintenance: Contractor is responsible for all maintenance of this system until final notice.

3.5 ACCEPTANCE (continued):

B. Inspection: The acceptance of irrigated areas will be made by the City of Tampa representative upon contractors request. Provide notification at least 2 working days before requesting inspection date. The City of Tampa will provide a punch list of those items which must be corrected before re-inspection for final acceptance. The City of Tampa representative will determine an appropriate time period in which the punch list item must be corrected. Provide 48 hours notification of need for re-inspection.

C. As Built Drawings: After final acceptance of the completed installation, and prior to final payment, the Contractor shall be responsible for having complete drawings prepared showing any changes from approved Shop Drawings and these shall be included as part of required "As Built Drawings".

D. Final Acceptance: The point in time when all requirements of the project drawings and specification are completed, including any punch list items, to the satisfaction of the City of Tampa representative. A City of Tampa representative shall notify the contractor in writing of final acceptance.

3.6 GUARANTEE:

A. Guarantee: All work shall be guaranteed for one year from date of final acceptance against all defects and malfunctions in materials, equipment and workmanship.
   1. The guarantee shall also cover repair of damage to any part of the premises resulting from leaks or other defects in materials, equipment and workmanship, to the satisfaction of the City of Tampa. Repairs, if required, shall be done promptly at no cost to the City of Tampa. The Contractor shall not be responsible for work damaged by others. The guarantee shall state the name of the owner, provide full guarantee terms, effective and termination date, name and license number. It shall be signed by the chief executive of the Contractor and notarized. Manufacturer's warranties shall not relieve the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.

   2. The Contractor will make necessary repairs within 72 hours notice, if the contractor shall neglect to make or undertake with the due diligence to make the same, the City of Tampa may make such repairs at the Contractors expense. In the case of emergency where, in the judgement of the City of Tampa, delay would cause serious loss or damage, repairs or replacement may be made without notice being sent to the contractor, and the Contractor shall pay the cost thereof.

END OF SECTION 02440-7

SECTION 02900
TREES, PLANTS AND GROUNDCOVERS

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK:

Furnish all materials, equipment and labor as necessary for preparation of planting areas, soil treatment, planting of trees, shrubs, groundcovers and grass, relocation of designated plants, protection of plants, maintenance, guarantee and replacement of plants, and related items as required to complete the work as indicated on the drawings and specified herein.

Related Work:

1. Section 02441: Irrigation System.
2. Section 17: Lawn Replacement

1.2 DEFINITIONS:

A. The following words and terms or pronouns used instead shall wherever they appear in these specifications, be construed as follows, unless a different meaning is clear from the context:

"Final Acceptance" shall mean that point in time when all requirements of project drawings and specifications are completed, including any punchlist items, to the satisfaction of the City of Tampa representative. The contractor shall be notified in writing of final acceptance by a City of Tampa representative.

"Warranty Period" shall be a one year period beginning at Final Acceptance.

"Maintenance Period" shall begin when plant material is installed and continue for thirty (30) days after notification of Final Acceptance.

"Final Maintenance Inspection" shall occur at the end of the thirty (30) day maintenance period.

1.3 QUALITY ASSURANCE:

A. The landscape installation shall be by a single firm specializing in landscape work.

B. Plant names indicated shall comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed shall conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.

C. Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock" (ANSI Z60 1) and, sizing and grading standards of the latest edition of "Grades and Standards for Nursery Plants: Part I and II" by the Florida Department of Agriculture and Consumer Services. All plant material shall be "Florida No. 1" or better.

1. Caliber measurement shall be taken six (6) inches above ground level if four (4) inches or less. If greater than 4 (four) inches, caliber measurement will be taken at twelve (12) inches above ground level.

D. Do not make substitutions. If specified landscape material is not obtainable submit to City of Tampa

representative in writing, proof of non-availability and proposal for use of equivalent material. When authorized, adjustment of contract amount will be made.

E. All plants shall be nursery grown and 100% acclimatized to local planting conditions.

F. Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional cost, providing that the larger plants will not be cut back to size indicated or rootbound in pots. Provide plants indicated by two measurements so that only a maximum of 25% are of the minimum size indicated and 75% are of the maximum size indicated. Height and spread specified will prevail over container size specified, for groundcover and shrub material only.

G. All trees will be inspected and approved by the City of Tampa representative at the place of growth, for compliance with specification requirements for quality, size, and variety. When trees cannot be obtained locally, provide sufficient photographs of the proposed plants for approval.

1. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.

2. Tag trees at the source of supply prior to inspection by City of Tampa representative.

1.4 SUBMITTALS:

A. Submit planting schedule showing scheduled dates for each type of planting in each area of site two weeks prior to beginning work.

B. Submit certificates of inspection, as required by governmental authorities, and manufacturers or vendors certified analysis for soil amendments, herbicides, insecticides and fertilizer materials, submit other data substantiating that materials comply with specified requirements.

C. Submit the following material samples:

1. Mulch
2. Topsoil with verification of sterilization and source.
3. One typical sample of each shrub and groundcover material as specified, prior to planting for approval.

a. Such approval shall not impair the right of inspection and rejection upon delivery at the site or during the progress of the work.

D. Upon final acceptance of plant material, submit two (2) written maintenance instructions recommending procedures for maintenance of plant materials for a one year period.

E. Provide landscape planting as-built drawings:

1. Legibly mark drawings to record actual installation.
2. Identify field changes of dimension and detail and changes made by approving authority.

1.5 DELIVERY, STORAGE AND HANDLING:

A. Deliver fertilizer materials in original, unopened, and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.

B. B&B Trees must be held and fully acclimatized over a period not less than eight (8) weeks prior to delivery to site.

C. Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately prior to digging to prevent dehydration. Dig, pack, transport, and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order. Upon arrival the certificate shall be filed with the appropriate City of Tampa department.

Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the City of Tampa representative. Water heeled-in plantings daily. No plant shall be bound with rope or wire in a manner that could damage or break the branches.

D. Plant material that is stored improperly shall receive a special review of acceptance/rejection, established on a case by case basis.

E. Cover plants transported on open vehicles with a protective covering to prevent wind burn.

F. Topsoil shall be kept dry and loose for planting bed mixes.

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

1.6 JOB CONDITIONS:

A. Work notification: Notify City of Tampa representative at least seven (7) working days prior to installation of plant material. All plant samples to be reviewed for approval prior to notification.

B. Protect existing utilities, paving, and other facilities from damage caused by landscaping operations. Notify any affected utilities 48 hours prior to beginning work, if applicable.

C. A complete list of plants, including a schedule of sizes, quantities, and other requirements are shown on the drawings. In the event that quantity discrepancies or material omission occur in the plant materials list, the planting plans shall govern.

D. Examine the subgrade, verify the elevations, observe the conditions under which work is to be performed, and examine unsatisfactory conditions before proceeding with the work.

1. When conditions detrimental to plant growth are encountered such as rubble fill, adverse drainage conditions or obstructions, notify City of Tampa representative before planting to determine alternative action.

2. Contractor shall be responsible for the removal of existing vegetation deemed necessary by City of Tampa representative to carry out scope of project.

E. The irrigation system shall be installed prior to planting, if applicable. Locate, protect and maintain the irrigation system during planting operations. Repair irrigation system components, new and existing, damaged during planting operations with like materials. Test system prior to installation of plant material.

F. Any work taking place along a city, county or state road or median must comply with appropriate regulating authorities guidelines for "Traffic Controls for Construction and Maintenance Operations". Contractor shall be responsible to file and obtain any and all required agency permits.

a. The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.
b. Single stemmed or thin plants will not be accepted.
c. Side branches shall be generous, well-twigged, and the plant as a whole well-bushed to the ground, unless otherwise specified.
d. Plants shall be in a vigorous condition, free from dead wood, bruises, or other root or branch injuries.

12. Any plant material showing signs of shock will be judged on a case by case basis for acceptance or rejection.

2.2 ACCESSORIES:

A. Refer to drawings and other portions of specifications for accessories specifically used on this project.

B. Topsoil for Planting Beds: Fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, obtained from a well-drained arable site, reasonably free from clay, lumps, coarse sands, stones, plants, roots, sticks, and other foreign materials, with acidity range between pH 5.5 and 6.5. Mixture 50% course native sand and 50% peat as specified.

1. Expressly identify source location of topsoil and/or peat proposed for use on the project.

2. Provide topsoil free of substances harmful to the plant material. Topsoil shall be sterilized.

C. Peat: Brown to black in color, sterile, weed and seed free granulated raw peat, containing not more than 9% mineral on a dry basis.

D. Fertilizer shall be complete with the following analysis and source compounds:

10% nitrogen derived from ammonium nitrate.
2% phosphorous derived from super phosphate.
10% potassium derived from potassium sulfate.
4% magnesium derived from magnesium sulfate.

The fertilizer shall be neutral and contain the essential micro-nutrients (Chelated Fe, Mn, Zn, Mo, Bo, Cu) in sulfates unless otherwise indicated in ppm. Fertilizer shall be slow release.

E. Anti-Desiccant: Protective film emulsion providing a protective film over plant surfaces; permeable to permit transpiration. Mixed and applied in accordance with manufacturer's instructions.

F. Mulch shall be derived from an invader tree species (unless specified otherwise on drawings) clean, bright and free from weeds, moss, sticks and other debris. Mulch shall be spread at minimum of two (2) inches deep and maximum of four (4) inches deep or as otherwise noted.

G. Water: Free of substances harmful to plant growth. Water shall contain less than 300 ppm soluble salts and less than 10 ppm chlorine, fluoride and sodium. Hoses or other methods of transportation furnished by Contractor. Contractor shall furnish water supply from an acceptable source. Acceptable sources: deep wells, municipal potable supply and treated waste water.

H. Guys: All trees between 2" and 4" caliber shall be guyed using a 3/4" rubber elastic guy system such as Tree Saver. Attach fluorescent flagging to guys, minimum 18" length.

I. Pre-emergent weed killer: Apply 2: granular "Chipco" Ronstar or approved equal, at a rate recommended by manufacturer.

PART 3 - EXECUTION

3.1 INSPECTION:

Contractor shall examine proposed planting areas and conditions for installation. Do not start planting work until unsatisfactory conditions are corrected.

3.2 PREPARATION:

A. Time of planting.

1. Deciduous material: If deciduous trees are planted in-leaf, they shall be sprayed with an anti-desiccant prior to planting operation.

B. Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified supervisor.

C. Layout of individual tree locations shall be performed by the City of Tampa representative prior to starting work at each site. Give 48 hour notice of need for inspection. If obstructions are encountered that are not shown on the drawings, do not proceed with planting operations until alternate plant locations have been selected. Verify locations of existing utilities.

D. Excavate circular plant pits with vertical sides, except for
plants specifically indicated to be planted in beds. Provide shrub pits at least 12" greater than the diameter of the root system and 3 times greater than diameter of rootball for trees. Depth of pit shall accommodate the root system. Remove excavated materials from the site, as indicated under Site Clearing Section 21.10.

E. Provide pre-mixed planting mixture for use around the balls and roots of the plants consisting of topsoil and 1/2 lb. plant fertilizer as specified, for each cu. yd. of mixture.

F. Provide pre-mixed ground cover bed planting mixture consisting of topsoil and 1/2 lb. Plant fertilizer as specified, per cu. yd. Provide beds a minimum of 8" deep. Excavate groundcover beds 4" deep, add planting mixture and fill to a depth of 8". If slopes are greater than 4 to 1 increase depth to 12".

G. Palm trees with clear trunk greater than six (6) feet in height shall be backfilled with soil indigenous to site.

3.3 INSTALLATION:

A. Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure. Set plant material 2"-3" above the finish grade. No filling will be permitted around trunks of stems. Backfill the pit with planting mixture until approximately 2/3 full, then water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Do not use muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water.

After balled and burlapped plants are set, place soil mixture around bases of balls and fill all voids.

1. Remove all burlap, ropes, and wires from the tops of balls.

B. Space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 4' of the trunks of trees and shrubs within planting bed and to within 1' of edge of bed.

C. Apply anti-desiccant using power spray to provide adequate film over trunks, branches, stems, twigs and foliage.

D. Mulch:

1. Apply pre-emergent weed killer over grade prior to mulching, as specified by City of Tampa representative. Use rates recommended for specified product.

2. Mulch tree, shrub planting pits and shrub beds with required mulching material 2" deep or as otherwise noted immediately after planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

E. Staking/Guying:

1. Guy all trees over 2" in caliber immediately after lawn seeding or sodding operations and prior to acceptance. When high winds or other conditions which may effect tree survival or appearance occur, the City of Tampa representative may require immediate staking/guying.

2. Brace all palm trees. Wrap with 5 layers burlap approximately 1/3 of the way up trunk. Attach lumber with cleats and hammer braces to lumber. Secure to ground with stake.

3. All work shall be acceptable to the City of Tampa representative.

F. Pruning:

1. Prune branches of B&B stock, prior to transplanting, to balance the loss of roots and preserve the natural character appropriate to the particular plant requirements. In general, remove 1/4 to 1/3 of the leaf bearing buds, proportion shall in all cases be acceptable to the City of Tampa representative. Remove or cut back broken, damaged, and unsymmetrical growth of new wood. Prune trees to retain required height and spread. Do not cut structural branches. Required sizes are the size after pruning.

2. Multiple leader plants: Preserve the leader which will best promote the symmetry of the plant. Cut branches at branch collars.

G. Care of Existing Trees:

1. All existing trees, if any, shall be protected through the duration of this project as outlined in the Tree Protection Standards of the City of Tampa Site Clearing Ordinance. These requirements and those attached at the end of this section are available in the City Hall Annex Building, Duplication office for a fee.

H. Tree Relocation:

1. Tree relocation shall be performed under the supervision of the City Arborist.

3.4 MAINTENANCE:

A. Begin maintenance immediately after planting. Maintain all plant material until final acceptance and for an establishment period of thirty (30) days after final acceptance.

B. Maintenance shall include but is not limited to pruning, cultivating, mowing, weeding, fertilizing, watering, and application of appropriate insecticides and fungicides necessary to maintain plants free of insects and disease.

1. Re-set settled plants to proper grade and position. Restore planting saucer and adjacent material and remove dead material.

2. Tighten and repair guys and stakes as required.

3. Correct defective work immediately after deficiencies become apparent and weather permits.

4. In addition to irrigation system or if no system exists, water trees every other day saturating the soil to depth of three (3) feet for the first two (2) weeks. If no irrigation system exists, water plant material per the following schedule:

1-30 days - water every other day, saturating the soil to a depth of 3 feet.

30-90 days - water twice a week, saturating the soil to a depth of three (3) feet.

90-365 days - water once a week, saturating the soil to a depth of three (3) feet.

Quantity of water applied should be adjusted in accordance to rainfall.

3.5 ACCEPTANCE:

A. Inspection to determine acceptance of planted areas will be made by the City of Tampa representative upon Contractor's request. Provide notification at least 5 working days before requested inspection date.

1. Planted areas will be accepted provided all requirements, including maintenance, have been complied with and plant materials are alive and in a healthy, vigorous condition.

B. The City of Tampa representative will prepare a "punch list" of those items which must be corrected before reinspection for final acceptance. The City of Tampa representative will determine an appropriate time period in which punchlist items must be corrected. Provide 48 hour notification of need for reinspection.

C. The Contractor shall commence the Plant Maintenance period 30 days after final acceptance.

3.6 WARRANTY:

A. Warrant plant material to remain alive and be in healthy, vigorous condition for a period of 1 year after completion and final acceptance of entire project.

B. Replace, in accordance with the drawings and specifications, all plants that are dead or as determined by the City of Tampa representative to be in an unhealthy or unsightly condition, and have lost their natural shape due to

contractor's negligence. The cost of such replacement(s) is at Contractor's expense. Warrant all replacement plants for 1 year after final acceptance.

C. Warranty shall not include damage or loss of trees, plants, or ground covers caused by fires, floods, freezing, rains, lightning storms or winds over 75 miles per hour, winter kill caused by extreme cold and severe winter conditions not typical of planting area; acts of vandalism or negligence on the part of the City.

D. Remove and replace immediately all plants found to be dead or in unhealthy condition as determined by City of Tampa representative at any time during warranty period. Make replacements within four (4) weeks of notification.

1. An inspection will be conducted at the end of the warranty period. Contractor will replace any plants found to be dead or in poor condition at this time within four (4) weeks of inspection. Contractor will also remove any tree bracing or guying determined by the city representative to be unnecessary at this point in the trees development.

3.7 CLEANING:

A. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soil, debris, and equipment. Coordinate with City Representative on site storage of debris and/or trash. Repair damage resulting from planting operations.

* * *

SECTION 02930
SODDING

PART 1: GENERAL

1.01 DESCRIPTION:

A. Provide sodded lawns as shown and specified. The work includes:

1. Soil preparation.
2. Sodding lawns, athletic fields, and other indicated areas.
3. Maintenance.

B. Related work:

1. Section 02900: Trees, Plants, and Ground Covers.

1.02 QUALITY ASSURANCE:

A. Sod: Comply with American Sod Producers Association (ASPA) classes of sod materials.

B. Provide and pay for materials testing. Testing agency shall be acceptable to the Landscape Architect. Provide the following date:

1. Test representative materials samples proposed for use.

2. Soil analysis of existing conditions.

a. Soil pH and recommendations for correction. Ideal pH for Bahia is 5.0 - 6.5.

b. Nematode infestation check and recommendation for eradication.

c. Organic matter check and recommendation.

d. Starter fertilizer check and recommendations.

1.03 SUBMITTALS:

A. Submit sod growers certification of grass species. Identify source location.

B. Submit the following material samples:

1. Topsoil.

C. Submit the following material certification:

1. Submit certificates of inspection as required by governmental authorities and manufacturers or vendors certified analysis for soil amendments, herbicides, insecticides and fertilizer materials; submit other data substantiating that

materials comply with specified requirements.

D. Submit soil analysis report.

1.04 DELIVERY, STORAGE AND HANDLING

A. Cut, deliver and install sod within a 24-hour period.

1. Do not harvest or transport sod when moisture content may adversely affect Sod survival.

2. Protect sod from sun, wind, and dehydration prior to installation.

3. Do not tear, stretch, or drop sod during handling and installation.

1.05 PROJECT CONDITIONS

A. Work notification: Notify City of Tampa representative at least 7 working days prior to start of sodding operations.

B. Protect existing utilities, paving and other facilities from damage caused by sodding operations.

C. Perform sodding work only after planting and other work affecting ground surface has been completed.

D. Existing soil to be amended as determined necessary from soil analysis, including: soil pH, nematode infestation, organic matter check and starter fertilizer check.

E. Restrict traffic from lawn areas until grass is established.

F. Provide hose and lawn watering equipment as required.

1.06 WARRANTY

A. Provide a uniform stand of grass by watering, mowing and maintaining lawn areas until final acceptance and for a period of 90 days after acceptance. Resod areas, with specified materials, which fail to provide a uniform stand of grass until all affected areas are accepted by the City of Tampa representative.

PART 2: PRODUCTS

2.01 MATERIALS

A. Sod: An “approved” nursery grown sod composed of Argentine Bahia, to match existing turf.

1. Provide well-rooted, healthy sod, free of diseases, nematodes and soil borne insects. Provide sod uniform in color, leaf texture, density, and free of weeds, undesirable grasses, stones, roots, thatch, and extraneous material; viable and capable of growth and development when planted.

2. Furnish sod machine stripped and of supplier’s standard width, length, and Thickness: Uniformly 1” to 1-1/2” thick with clean cut edges. Mow sod before stripping.

B. Fertilizer:

1. Granular, non-burning product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer.

   a. Type A: Starter fertilizer containing 16% nitrogen, 4% phosphoric acid, and 8% potash by weight or similar approved composition.

   b. Type B: Top dressing fertilizer containing 31% nitrogen, 3% phosphoric acid, and 10% potash by weight or similar approved composition.

   c. Ground Limestone: Containing not less that 85% of total cabonates and Ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20 mesh sieve.

C. Stakes

1. Steel, tee shaped pins, 4" head x 8" leg.

D. Water: Free of substance harmful to sod growth. Hoses or other methods of Transportation furnished by contractor.

E. Topsoil: Fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, reasonably free from clay lumps, coarse sand stones, plants, roots and other foreign materials with an acidity level as specified by type of sod.

1. Identify source location of topsoil.
2. Topsoil shall be fertilized.

PART 3 EXECUTION

3.01 INSPECTION:

A. Examine finish surfaces, grades, topsoil quality, and depth. Do not start sodding work until unsatisfactory conditions are corrected.

3.02 PREPARATION:

A. If area to be sodded has existing grass or vegetative cover, apply a non-selective Herbicide (Round-up) to area. Wait ten (10) days before continuing with prep work.

B. Remove stones over 1" in any dimension and sticks, roots, rubbish, construction material and extraneous matter.

C. Add 2" topsoil or organic material as required from organic matter check. Till into top 8" of existing soil.

D. Grade lawn areas to smooth, free drainage and even surface with a loose, uniformly fine texture. Match existing site grades. Roll and rake, remove ridges and fill depressions as required to drain.

E. Apply limestone at rate determined by the soil test, to adjust pH of topsoil as specified in sod type. Distribute evenly by machine and incorporate thoroughly into topsoil.

F. Apply "Type A" fertilizer as specified by manufacturer. Apply fertilizer by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with the soil to a depth of 3" by discing or other approved methods. Fertilize areas inaccessible to power equipment with hand tools and incorporate it into soil.

G. Dampen dry soil prior to sodding.

H. Restore prepared areas to specified condition if eroded, settled or otherwise Distributed after fine grading and prior to sodding.

3.03 INSTALLATION:

A. Lay sod to form a solid mass with tightly-fitted joints. Butt ends and sides of sod strips. Do not overlay edges. Stagger strips to offset joints in adjacent courses. Remove excess sod to avoid smothering of adjacent grass. Provide sod pad top flush with adjacent curbs, sidewalks, drains and seed areas.

B. Do not lay dormant sod or install sod on saturated soil.

C. Install initial row of sod in a straight line, beginning at bottom of slopes, perpendicular to direction of the sloped area. Place subsequent rows parallel to and lightly against previously installed row.

D. Peg sod on slopes greater than 3 to 1 to prevent slippage at a rate of 2 stakes per yd. of sod.

E. Water sod thoroughly with a fine spray immediately after laying.

F. Roll with light lawn roller to ensure contact with subgrade.

G. Sod indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.

H. Top dress all seams of sodded area with specified topsoil.

3.04 MAINTENANCE

A. Maintain sodded lawns for a period of at least 90 days after completion and acceptance of sodding operations.

B. Maintain sodded lawn areas, including watering, spot weeding, mowing, fertilizing and the application of appropriate insecticides and fungicides necessary to maintain plants free of insects and disease. Application of herbicides, fungicides, insecticides and resodding until a full, uniform stand of grass free of weed, undesirable grass species, disease, and insects is achieved and accepted by the City of Tampa representative.

1. Water sod thoroughly ever 2 to 3 days, as required to establish proper rooting.

2. Repair, rework, and resod all areas that have washed out or are eroded. Replace undesirable or dead areas with new sod.

3. Mow lawn areas as soon as law top growth reaches a 3" height. Cut back to 2" height. Repeat mowing as required to maintain specified height. Not more than 40% of grass leaf shall be removed at any single mowing.

4. Apply "Type B" fertilizer to lawns approximately 30 days after sodding at a rate specified by the manufacturer. Apply with a mechanical rotary or drop type distributor. Thoroughly water into soil.

5. Apply herbicides as required to control weed growth or undesirable grass species.

6. Apply fungicides and insecticides as required to control disease and insects.

3.05 ACCEPTANCE

A. Inspection to determine acceptance of sodded lawns will be made by the Landscape architect, upon contractor's request. Provide notification at least 5 working days before requested inspection date.

1. Sodded areas will be acceptable provided all requirements, including maintenance, have been complied with, and a healthy, even colored viable lawn is established, fee of weeds, undesirable grass species, disease, and insects.

B. Upon acceptance contractor shall maintain area for 90 days. At the end of this period contractor shall request a final request a final maintenance inspection for acceptance.

C. Upon acceptance at end of maintenance period the City of Tampa will assume lawn maintenance.

3.06 CLEANING

A. Perform cleaning during installation of the work and upon completion of the Work. Remove from site all excess materials, debris, and equipment. Repair damage resulting from sodding operations.

END OF SECTION 02930-6

SECTION 02945
PLANTING ACCESSORIES

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

A. Landscape edging for straight-line and curvilinear borders between turf and planting beds.

B. Related work:
   1. Section 02440: Irrigation System
   2. Section 02900: Trees, Plants, and Ground Covers
   3. Section 02930: Sodding

1.2 REFERENCES

A. ASTM B 221 (ASTM B 221M): Standard Specification for Aluminum and Aluminum - Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.

B. ASTM B 209-01 (ASTM B 221M): Standard Specification for Aluminum and Aluminum – Alloy Sheet and Plate.

C. AAMA: American Architectural Manufacturer's Association for aluminum finishes.

1.3 SUBMITTALS

A. Submit manufacturer's product data.
   1. Submit 3 inch (76 mm) long edging sample of specified size and colors.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver to location as instructed by Contractor in manufacturer's package showing no signs of damage to product.
B. Investigate delivered damaged packages and if product is damaged, Contractor to not accept and have product returned and replaced. Store boxed products on flat surface and protect from water exposure.

1.5 WARRANTY

A. 15-year limited material warranty for manufacturing defects in workmanship or material.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. PermaLoc Corporation, 13505 Barry St, Holland, MI 49424, USA, telephone: (800) 356-9660, (616) 399-9600, fax (616) 399-9770, e-mail: info@permaloc.com, web site: www.permaloc.com, or approved equal.

2.2 MANUFACTURED UNITS

A. Heavy Duty Straight Profile Edging.

1. Description: PermaLoc CleanLine, or approved equal extruded aluminum landscape edging for straight-line and curvilinear applications in corrugated straight profile. Section shall have loops on side of section to receive stakes spaced approximately 2 to 3 feet (610 mm to 915 mm) apart along its length.

2. Size:
   a. 1/8 inch x 5-1/2 inches (3.2 mm x 140 mm) – curved bed edges.
   b. 3/16 inch x 5 ½ inches (4.8 mm x 140 mm) - straight bed edges.

3. Thickness:
   1/8 inch (3.2 mm) gage section at 0.072 inch (1.83 mm) minimum thick with 0.135 inch (3.4 mm) exposed top lip and 3/16 inch (4.8 mm) gage section at 0.116 inch (2.95 mm) minimum thick with 0.187 inch (4.75 mm) exposed top lip.

4. Length:
   16 feet (4.88 meters). Selected products in 8-foot (2.44 meters) sections.

5. Connection Method:
   Section ends shall splice together with an interlocking stakeless snap-down design.

6. Finish:
   a. Natural Mill Aluminum

2.3 STAKES

A. Standard Gage Stake: 12 inch (305 mm) PermaLoc Standard Stake, aluminum, 0.10 inch (2.5 mm) thick x 11.81 inches (300 mm) long x 1.12 inches (28.4 mm) wide.

B. Optional Heavy Gage Stake: PemaLoc Structural Stake, extruded aluminum, 0.125 inch (3.2 mm) thick with 0.25 inch (6.4 mm) round mid section, 1.25 inches (32 mm) wide in following lengths:
   1. 16” (406 mm)
   2. 18” (457 mm)
   3. 24” (610 mm)

C. Stakes to interlock into section loops on face side of section. Requires 5 (or 8 for PermaStrip) stakes for each 16 feet (4.88 meters) section with total of 8 loops available or 3 stakes for each 8 feet (2.44 meters) section with total of 3 loops available.

D. Finish: Shall be same as edging.

2.4 EDGING AND STAKE MATERIAL

A. Edging: ASTM B 221 (ASTM B 221M), Aluminum 6063 alloy, T6 hardness.

B. Stakes (12”(305 mm)): ASTM B 209-01 (ASTM B 209M), Aluminum 3004 alloy, H34 hardness.

C. Stakes (16”(406 mm), 18” (457 mm), 24”(610 mm)): ASTM B 221 (ASTM B 221M), Aluminum 6063 alloy, T6 hardness.

PART 3- EXECUTION

3.1 PREPARATION

A. Ensure that all underground utility lines are located and will not interfere with the proposed edging installation before beginning work.

B. Locate border line of edging with string or other means to assure border straightness and curves as designed.

C. Dig trench 1 inch (25 mm) deeper than set of edging bottom.

3.2 INSTALLATION

A. Set edging into trench with top at ½ inch (12.7 mm) above compacted finish grade on turf side with side having loops for stakes placed on opposite side of turf.

B. Securely connect sections together in accordance with manufacturer's instructions. Drive stakes through edging loops with spacing in accordance with manufacturer's recommendations until locked into edging with stake top 1/8" (3.2 mm) below top of edging. Provide additional stakes, longer stakes, heavier gage stakes, or any combination of previously mentioned as necessary to firmly secure edging for permanent intended use.

C. Where edging sections turn at corners and at angled runs, cut edging partially up through its height from bottom and turn back to desired angle to form rounded exposed radius.

3.3 BACKFILLING AND CLEANUP

A. Backfill both sides of edging, confirm and adjust if necessary that sections are securely held together, and compact backfill material along edging to provide top of edging at ½ inch (12.7 mm) above yard finish grade.

B. Cleanup and remove excess material from site.

END OF SECTION 02945