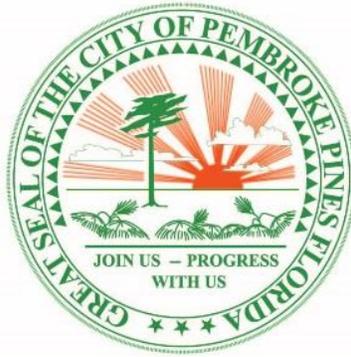


Exhibit "A"



Wastewater Treatment Plant West Blower Building Electrical Modification

Invitation for Bids # PSEN-19-04

General Information		
Project Cost Estimate	\$42,000	See Section 1.4
Project Timeline	90 calendar days from NTP	See Section 1.4
Evaluation of Proposals	Staff	See Section 1.7
Mandatory Pre-Bid Meeting	10:00 a.m. on May 13, 2019 at the Wastewater Treatment Plant 13955 Pembroke Rd, Pembroke Pines, FL 33029	See Section 1.8
Question Due Date	May 20, 2019	See Section 1.8
Proposals will be accepted until	2:00 p.m. on June 4, 2019	See Section 1.8
100% Payment and Performance Bonds	Required in the event that the proposal exceeds \$200,000	See Section 4.2

THE CITY OF PEMBROKE PINES
PURCHASING DIVISION
8300 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA 33025
(954) 518-9020



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- Attachment B: Non-Collusive Affidavit
- Attachment C: Proposer’s Qualifications Statement
- Attachment D: Sample Insurance Certificate
- Attachment E: Specimen Contract - Construction Agreement
- Attachment F: References Form
- Attachment G: Mandatory Pre-Bid/Site Visit Confirmation Form
- Attachment H: Standard Release of Lien Form
- Attachment I: 16010 Basic Electrical Requirements
- Attachment J: 16050 Basic Electrical Materials and Methods
- Attachment K: 16110 Raceways
- Attachment L: 16120 Conductors
- Attachment M: WWTP Blower Building Electrical Plans



SECTION 1 - INSTRUCTIONS

1.1 NOTICE

Notice is hereby given that the City Commission of the City of Pembroke Pines is seeking sealed proposals for:

IFB # PSEN-19-04

Wastewater Treatment Plant West Blower Building Electrical Modification

Solicitations may be obtained from the City of Pembroke Pines website at <http://www.ppines.com/index.aspx?NID=667> and on the www.BidSync.com website.

If you have any problems downloading the solicitation, please contact the BidSync Support line at 1-800-990-9339.

If additional information help is needed with downloading the solicitation package please contact the Purchasing Office at (954) 518-9020 or by email at purchasing@ppines.com. The Purchasing Office hours are between 7:00 a.m. - 6:00 p.m. on Monday through Thursday and is located at 8300 South Palm Drive, Pembroke Pines, Florida 33025.

The City requires all questions relating to the solicitation be entered through the “Ask a Question” option tab available on the BidSync website. Responses to the questions will be provided online at www.bidsync.com. Such request must be received by the “Question Due Date” stated in the solicitation. The issuance of a response via BidSync is considered an Addendum and shall be the only official method whereby such an interpretation or clarification will be made.

Proposals will be accepted until 2:00 p.m., Tuesday, June 4, 2019. Proposals must be submitted electronically at www.BidSync.com. The sealed electronic proposals will be publicly opened at 2:30 p.m. by the City Clerk’s Office, in the City Hall Administration Building, 4th Floor Conference Room located at 601 City Center Way, Pembroke Pines, Florida, 33025.

1.2 PURPOSE

The City of Pembroke Pines is seeking proposals from qualified firms, hereinafter referred to as the Contractor, to do an electrical modification to the City’s Wastewater Treatment Plant West Blower building to accommodate two 200HP air blowers per the plans & specifications provided by Hillers Electrical Engineering Inc. in accordance with the terms, conditions, and specifications contained in this solicitation.



1.3 SCOPE OF WORK

The City of Pembroke Pines requires an electrical modification to the Wastewater Treatment Plant West Blower building to accommodate two new 200HP air blowers per the plans & specifications by provided by Hillers Electrical Engineering Inc. Please see Attachments I-M.

1.4 PROJECT COST ESTIMATE & TIMELINE

Staff estimates this project to cost approximately \$42,000, which does not include permit costs.

Please note the City will include a 3% Permit Allowance for this project, **therefore proposers should not include permit costs in their total proposal price.**

The work shall be completed within 90 days from issuance of City’s Notice to Proceed.

1.4.1 PERMITS

The City anticipates the vendors may need the following permits:

Permit	Agency	Cost (or related method of calculation)
Engineering	City of Pembroke Pines Engineering Department	4.91364% of construction costs
Building	City of Pembroke Pines Building Department (Calvin, Giordano & Associates, Inc.)	1. Construction costs up to \$2,500 (Per structure per trade) = \$97.17 2. Construction costs greater than \$2,500 up to \$1,000,000 = 2.96%

1.4.2 PERMIT ALLOWANCE

The City shall include a “Permit Allowance” for this project. The Contractor shall obtain all required permits to complete the work, however the City shall utilize the Permit Allowance to reimburse the contractor for the related permit, license, impact or inspection fees. Payments will be made to the contractor based on the actual cost of permits upon submission of paid permit receipts. The City shall not pay for other costs related to obtaining or securing permits.

The City shall determine the amount of the allowance at time of award. The allowance may be based on a specified percent of the proposed project amount and shall be established for the specific project being performed under the contract. This dollar amount shall be shown on the specific project purchase order as a distinct item from the vendor’s overall offer to determine the total potential dollar value of the contract. Any Permit Allowance funds that have not been utilized at the end of the project will remain with the City, if the



City Permit fees exceed the allowance indicated, the City will reimburse the contractor the actual amount of City Permit Fees required for project completion.

1.5 PROPOSAL REQUIREMENTS

The following documents will need to be completed, scanned and submitted through www.bidsync.com as part of the bidder's submittal. The proposer interested in responding to this solicitation must provide the information requested below. Submittals that do not respond completely to all requirements specified herein may be considered non-responsive and eliminated from the process.

1.5.1 Attachment A: Contact Information Form

- a. Attached is contact information form (Attachment A) where the vendor will enter their contact information and complete the proposal checklist. The Contact information form shall be electronically signed by the contact person authorized to represent the contractor. This form must be completed and submitted through www.bidsync.com as part of the bidder's submittal.
- b. The vendor must provide their pricing through the designated lines items listed on the BidSync website.
- c. Please note vendors should be registered on BidSync under the name of the organization that they are operating as and it should match the organization name on the documents that they are submitting and utilizing when responding to the solicitation.
- d. The contact information form should contain an electronic signature of the authorized representative of the Proposer along with the address and telephone number for communications regarding the Proposal.
- e. Proposals by corporations should be executed in the corporate name by the President or other corporate officer accompanied by evidence of authority to sign. The corporate address and state of incorporation must also be shown.
- f. Proposals by partnerships should be executed in the partnership name and signed by a partner whose title and the official address of the partnership must be shown.

1.5.2 Attachment B: Non-Collusive Affidavit

1.5.3 Attachment C: Proposer's Qualifications Statement

1.5.4 Attachment F: References Form

- a. Complete **Attachment F: References Form**, preferably where the team was the same. References should be from the last five years and should be



capable of explaining and confirming your firm’s capacity to successfully complete the scope of work outlined herein. As part of the proposal evaluation process, the City may conduct an investigation of references, including a record check or consumer affairs complaints. Proposers’ submission of a proposal constitutes acknowledgment of the process and consent to investigate. The City is the sole judge in determining Proposers qualifications.

1.5.5 Attachment G: Mandatory Pre-Bid Meeting Form

1.6 VENDOR REGISTRATION AND QUALIFICATION DOCUMENTS

The City has implemented a new process that is intended to make the bidding process easier for vendors that bid on multiple City projects. This process will require vendors to complete and submit the following standard forms and documents at any time prior to bidding on a project. In addition, the vendors will be able to utilize these same forms without the need to re-fill and re-submit the forms each time they bid on a City project.

Furthermore, please make sure to update this information on an as-needed basis so that all pertinent information is accurate, such as local business tax receipts, and any other relevant information.

These forms will be found under the “Vendor Registration” group of “Qualifications” on the BidSync website for the City of Pembroke Pines. Please note that the BidSync website requires bidders to complete all of these qualifications prior to being able to submit questions on any bids, therefore, please make sure to complete this information as soon as possible.

The following documents can be completed prior to the bidding process through the BidSync website and do not need to be attached to your submittal as the BidSync website will automatically include it.

1.6.1 Vendor Information Form

1.6.2 Form W-9 (Rev. October 2018)

- a. Previously dated versions of this form will delay the processing of any payments to the selected vendor.

1.6.3 Sworn Statement on Public Entity Crimes Form

1.6.4 Local Vendor Preference Certification

- a. If claiming Local Pembroke Pines Vendor Preference, business must attach a current business tax receipt from the City of Pembroke Pines.



- b. If claiming Local Broward County Vendor Preference, business must attach a current business tax receipt from Broward County or the city within Broward County where the business resides.
- c. The Local Vendor Preference Certification form must be completed by/for the proposer; the proposer **WILL NOT** qualify for Local Vendor Preference based on their sub-contractors' qualifications.

1.6.5 Local Business Tax Receipts

1.6.6 Veteran Owned Small Business Preference Certification

- a. If claiming Veteran Owned Small Business Preference Certification, business must attach the "Determination Letter" from the United States Department of Veteran Affairs Center for Verification and Evaluation notifying the business that they have been approved as a Veteran Owned Small Business (VOSB).
- b. The Veteran Owned Small Business Preference Certification form must be completed by/for the proposer; the proposer **WILL NOT** qualify for Veteran Owned Small Business Preference based on their sub-contractors' qualifications.

1.6.7 Equal Benefits Certification Form

1.6.8 Vendor Drug-Free Workplace Certification Form

1.6.9 Scrutinized Company Certification

1.7 EVALUATION OF PROPOSALS & PROCESS OF SELECTION

- A. Staff will evaluate all responsive proposals received from proposers who meet or exceed the bid requirements contained in the solicitation. Evaluations shall be based upon the information contained in the proposals as submitted.
- B. Staff will make a recommendation to the City Commission for award of contract.



1.8 TENTATIVE SCHEDULE OF EVENTS

Event	Time &/or Date
Issuance of Solicitation (Posting Date)	May 7, 2019
Mandatory Pre-Bid Meeting	10:00 a.m. on May 13, 2019
Question Due Date	May 20, 2019
Anticipated Date of Issuance for the Addenda with Questions and Answers	May 23, 2019
Proposals will be accepted until	2:00 p.m. on June 4, 2019
Proposals will be opened at	2:30 p.m. on June 4, 2019
Evaluation of Proposals by Staff	TBD
Recommendation of Contractor to City Commission award	TBD
Issuance of Notice to Proceed	TBD
Project Commencement	Not later than 10 days after NTP
Project Completion	90 days after NTP

1.8.1 MANDATORY PRE-BID MEETING / SITE VISIT

There will be a mandatory scheduled pre-bid meeting on **May 13, 2019 at 10:00 a.m.** Meeting location will be at the Wastewater Treatment Plant located at 13955 Pembroke Rd, Pembroke Pines, FL 33029.

All vendors will be required to complete **Attachment G "Mandatory Pre-Bid Meeting Form"** at the meeting and submit it as part of their proposal to show proof of attendance to the mandatory meeting.

1.9 SUBMISSION REQUIREMENTS

Bids/proposals **must be submitted electronically** at www.bidsync.com on or before **2:00 p.m. on June 4, 2019.**

Please note vendors should be registered on BidSync under the name of the organization that they are operating as and it should match the organization name on the documents that they are submitting and utilizing when responding to the solicitation.

The vendor must provide their pricing through the designated lines items listed on the BidSync website. In addition, the vendor must complete any webforms on the BidSync website and provide any additional information requested throughout this solicitation. Any additional information requested in the solicitation should be scanned and uploaded. **Unless otherwise specified, the City requests for vendors to upload their documents as one (1) PDF document in the order that is outline in the bid package.**



The City recommends for proposers to submit their proposals as soon as they are ready to do so. Please allow ample time to submit your proposals on the BidSync website. Proposals may be modified or withdrawn prior to the deadline for submitting Proposals. BidSync Support is happy to help you with submitting your proposal and to ensure that you are submitting your proposals correctly, but we ask that you contact their support line at 1-800-990-9339 with ample time before the bid closing date and time.

PLEASE DO NOT SUBMIT ANY PROPOSALS VIA MAIL, E-MAIL OR FAX.



SECTION 2 - INSURANCE REQUIREMENTS

The CONTRACTOR shall indemnify and hold harmless the CITY and its officers, employees, agents and instrumentalities from any and all liability, losses or damages, including attorneys' fees and costs of defense, which the CITY or its officers, employees, agents or instrumentalities may incur as a result of claims, demands, suits, causes of actions or proceedings of any kind or nature arising out of, relating to or resulting from the performance of this Agreement by the CONTRACTOR or its employees, agents, servants, partners principals or subcontractors. The CONTRACTOR shall pay all claims and losses in connection therewith and shall investigate and defend all claims, suits or actions of any kind or nature in the name of the CITY, where applicable, including appellate proceedings, and shall pay all costs, judgments, and attorney's fees which may issue thereon. The CONTRACTOR expressly understands and agrees that any insurance protection required by this Agreement or otherwise provided by the CONTRACTOR shall in no way limit the responsibility to indemnify, keep and save harmless and defend the CITY or its officers, employees, agents and instrumentalities as herein provided.

CONTRACTOR shall not commence work under this Agreement until it has obtained all insurance required under this paragraph and such insurance has been approved by the Risk Manager of the CITY nor shall the CONTRACTOR allow any subcontractor to commence work on his subcontract until all similar such insurance required of the subcontractor has been obtained and similarly approved.

CERTIFICATES OF INSURANCE, reflecting evidence of the required insurance, shall be filed with the City's Risk Manager prior to the commencement of this Agreement. Policies shall be issued by companies authorized to do business under the laws of the State of Florida. The insurance company shall be rated no less than "A" as to management, and no less than "Class VI" as to financial strength according to the latest edition of Best's Insurance Guide published by A.M. Best Company.

Policies shall be endorsed to provide the CITY thirty (30) days' notice of cancellation, material change or non-renewal of policies required under the contract. If the carrier will not agree to this notification, the CONTRACTOR or its insurance broker shall notify the CITY of any cancellation or reduction in coverage within seven days of receipt of insurer's notification of cancellation or reduction in coverage.

Insurance shall be in force until all obligations required to be fulfilled under the terms of the Agreement are satisfactorily completed as evidenced by the formal acceptance by the CITY. In the event the insurance certificate provided indicates that the insurance shall terminate and lapse during the period of this Agreement, then in that event, the CONTRACTOR shall furnish, at least fifteen (15) days prior to the expiration of the date of such insurance, a renewed certificate of insurance as proof that equal and like coverage for the balance of the period of the Agreement and extension thereunder is in effect. The CONTRACTOR shall not commence nor continue to provide any services pursuant to this Agreement unless all required insurance remains in full force and effect. CONTRACTOR shall be liable to CITY for any lapses in service resulting from a gap in insurance coverage.

The insurance requirements specified in this Agreement are minimum requirements and in no way reduce any liability the CONTRACTOR has assumed in the indemnification/hold harmless section(s) of this Agreement.



2.1 REQUIRED INSURANCE

A. COMMERCIAL GENERAL LIABILITY INSURANCE including, but not limited to: coverage for premises & operations, personal & advertising injury, products & completed operations, Liability assumed under an Insured Contract (including tort liability of another assumed in a business contract), and independent contractors. Coverage must be written on an occurrence basis, with limits of liability no less than:

1. Each Occurrence Limit - \$1,000,000
2. Fire Damage Limit (Damage to rented premises) - \$100,000
3. Personal & Advertising Injury Limit - \$1,000,000
4. General Aggregate Limit - \$2,000,000
5. Products & Completed Operations Aggregate Limit - \$2,000,000 **(mostly for construction or equipment sold to the CITY)**

Products & Completed Operations Coverage shall be maintained for two (2) years after the final payment under this contract. (Increase to 10 years for construction projects) (For construction projects also include: Designated Construction Project(s) General Aggregate Limit)

The City of Pembroke Pines must be shown as an additional insured with respect to this coverage. City's Additional Insured status shall extend to any coverage beyond the minimum requirements for limits of liability found herein.

B. WORKERS' COMPENSATION AND EMPLOYERS LIABILITY INSURANCE covering all employees, and/or volunteers of the CONTRACTOR engaged in the performance of the scope of work associated with this Agreement. In the case any work is sublet, the CONTRACTOR shall require the subcontractors similarly to provide Workers Compensation Insurance for all the latter's employees unless such employees are covered by the protection afforded by the CONTRACTOR. Coverage for the CONTRACTOR and his subcontractors shall be in accordance with applicable state and/or federal laws that may apply to Workers' Compensation Insurance with limits of liability no less than:

1. Workers' Compensation : Coverage A – Statutory
2. Employers Liability: Coverage B \$500,000 Each Accident
 - \$500,000 Disease – Policy Limit
 - \$500,000 Disease – Each Employee

If CONTRACTOR claims to be exempt from this requirement, CONTRACTOR shall provide CITY proof of such exemption along with a written request for CITY to exempt CONTRACTOR, written on CONTRACTOR letterhead.

Coverage shall be included for injuries or claims under the USL&H or Jones Act, when applicable.

C. AUTO LIABILITY INSURANCE covering all owned, leased, hired, non-owned and employee non-owned vehicles used in connection with the performance of work under this Agreement, with a combined single limit of liability for bodily injury and property damage no less than:



1. Any Auto (Symbol 1)
Combined Single Limit (Each Accident) - \$1,000,000
2. Hired Autos (Symbol 8)
Combined Single Limit (Each Accident) - \$1,000,000
3. Non-Owned Autos (Symbol 9)
Combined Single Limit (Each Accident) - \$1,000,000

If work under this Agreement includes transportation of hazardous materials, policy shall include pollution liability coverage equivalent to that provided by ISO pollution liability-broadened coverage for auto endorsement CA9948 and the Motor Carrier Act endorsement MCS90.

- D. PROFESSIONAL LIABILITY/ERRORS & OMISSIONS INSURANCE**, when applicable, with a limit of liability no less than \$1,000,000 per wrongful act. This coverage shall be maintained for a period of no less than three (3) years after final payment of the contract. (Increase to 10 years for construction projects)
- E. ENVIRONMENTAL/POLLUTION LIABILITY** shall be required with a limit of no less than \$1,000,000 per wrongful act whenever work under this Agreement involves potential losses caused by pollution conditions. Coverage shall include: Contractor's completed operations as well as sudden and gradual pollution conditions. If coverage is written on a claims-made basis, coverage shall be maintained for a period of no less than three (3) years after final payment of the contract. **The City of Pembroke Pines must be shown as an additional insured with respect to this coverage.** Furthermore, the CITY'S Additional Insured status shall extend to any coverage beyond the minimum requirements for limits of liability found herein.
- F. CYBER LIABILITY including Network Security and Privacy Liability** when applicable, with a limit of liability no less than \$1,000,000 per loss. Coverage shall include liability arising from: theft, dissemination and/or use of confidential information stored or transmitted in electronic form, unauthorized access to, use of, or tampering with computer systems, including hacker attacks or inability of an authorized third party to gain access to your services, including denial of service, and the introduction of a computer virus into, or otherwise causing damage to, a customer's or third person's computer, computer system, network, or similar computer-related property and the data, software and programs thereon. This coverage shall be maintained for a period of no less than three (3) years after final payment of the contract. **The City of Pembroke Pines must be shown as an additional insured with respect to this coverage.** Furthermore, the CITY'S Additional Insured status shall extend to any coverage beyond the minimum requirements for limits of liability found herein.
- G. CRIME COVERAGE** when applicable, shall include employee dishonesty, forgery or alteration, and computer fraud in an amount of no less than \$1,000,000 per loss. If Contractor is physically located on the City's premises, a third-party fidelity coverage extension shall apply.
- H. BUILDER'S RISK INSURANCE** shall be "All Risk" for one hundred percent (100%) of the completed value of the project with a deductible of not more than five percent (5%) for Named Windstorm and \$20,000 per claim for all other perils. The Builder's Risk Insurance



shall include interests of the CITY, the CONTRACTOR and subcontractors of the project. The CONTRACTOR shall include a separate line item for all costs associated with the Builder's Risk Insurance Coverage for the project. The CITY reserves the right at its sole discretion to utilize the CONTRACTOR'S Builder's Risk Insurance or for the CITY to purchase its own Builder's Risk Insurance for the Project. Prior to the CONTRACTOR purchasing the Builder's Risk insurance for the project, the CONTRACTOR shall allow the CITY the opportunity to analyze the CONTRACTOR'S coverage and determine who shall purchase the coverage. Should the CITY utilize the CONTRACTOR'S Builder's Risk Insurance, the CONTRACTOR shall be responsible for all deductibles. If the CITY chooses to purchase the Builder's Risk Coverage on the project, the CONTRACTOR shall provide the CITY with a change order deduct for all premiums and costs associated with the Builder's Risk insurance in their schedule. Should the CITY choose to utilize the CITY'S Builder's Risk Program, the CITY shall be responsible for the Named Windstorm Deductible and the CONTRACTOR shall be responsible for the All Other Perils Deductible.

- I. **SEXUAL ABUSE** may not be excluded from any policy for Agreements involving any interaction with minors or seniors.

2.2 REQUIRED ENDORSEMENTS

1. The City of Pembroke Pines shall be named as an Additional Insured on each of the General Liability policies required herein
2. Waiver of all Rights of Subrogation against the CITY
3. 30 Day Notice of Cancellation or Non-Renewal to the CITY
4. CONTRACTOR's policies shall be Primary & Non-Contributory
5. All policies shall contain a "severability of interest" or "cross liability" liability clause without obligation for premium payment of the CITY
6. The City of Pembroke Pines shall be named as a Loss Payee on all Property and/or Inland Marine Policies as their interest may appear.

CONTRACTOR shall name the CITY, as an additional insured on each of the General Liability policies required herein and shall hold the CITY, its agents, officers and employees harmless on account of claims for damages to persons, property or premises arising out of the services provided hereunder. Any insurance required of the CONTRACTOR pursuant to this Agreement must also be required by any subcontractor in the same limits and with all requirements as provided herein, including naming the CITY as an additional insured, in any work is subcontracted unless such subcontractor is covered by the protection afforded by the CONTRACTOR and provided proof of such coverage is provided to CITY. The CONTRACTOR and any subcontractors shall maintain such policies during the term of this Agreement.

The CITY reserves the right to require any other additional types of insurance coverage and/or higher limits of liability it deems necessary based on the nature of work being performed under this Contract.



SECTION 3 - GENERAL TERMS & CONDITIONS

3.1 EXAMINATION OF CONTRACT DOCUMENTS

Before submitting a Proposal, each Proposer should (a) consider federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost or performance of the work, (b) study and carefully correlate the Proposer's observations with the Proposal Documents; and (c) notify the Purchasing Manager of all conflicts, errors and discrepancies, if any, in the Proposal Documents.

The Proposer, by and through the submission of a Proposal, agrees that Proposer shall be held responsible for having familiarized themselves with the nature and extent of the work and any local conditions that may affect the work to be done and the services, equipment, materials, parts and labor required.

3.2 CONFLICT OF INSTRUCTIONS

If a conflict exists between the General Conditions and Instructions stated herein and specific conditions and instructions contained in specifications, the specifications shall govern.

3.3 ADDENDA or ADDENDUM

A formal solicitation may require an Addendum to be issued. An addendum in some way may clarify, correct or change the original solicitation (i.e. due date/time, specifications, terms, conditions, line item). Vendors submitting a proposal should check the BidSync website for any addenda issued. Vendors are cautioned not to consider verbal modifications to the solicitation, as the addendum issued through BidSync will be the only official method whereby changes will be made.

3.4 INTERPRETATIONS AND QUESTIONS

If the Proposer is in doubt as to the meaning of any of the Proposal Documents, is of the opinion that the Conditions and Specifications contain errors or contradictions or reflect omissions, or has any question concerning the conditions and specifications, the Proposer shall submit a question for interpretation or clarification. The City requires all questions relating to the solicitation be entered through the "**Ask a Question**" option tab available on the BidSync website. Responses to the questions will be provided online at www.bidsync.com. Such request must be received by the "**Question Due Date**" stated in the solicitation. Questions received after "**Question Due Date**" shall not be answered. Interpretations or clarifications in response to such questions will be issued via BidSync. The issuance of a response via BidSync is considered an Addendum and shall be the only official method whereby such an interpretation or clarification will be made.

BidSync Support is also available to assist proposers with submitting their proposal and to ensure that proposers are submitting their proposals correctly. Proposers should ensure that they contact their BidSync support line at 1-800-990-9339 with ample time before the bid closing date and time.

For all other questions related to this solicitation, please contact the Purchasing Division at purchasing@ppines.com.

3.5 RULES, REGULATIONS, LAWS, ORDINANCES and LICENSES

The awarded contractor shall observe and obey all laws, ordinances, rules, and regulations of the federal, state, and CITY, which may be applicable to the service being provided. The awarded firm shall have or be responsible for obtaining all necessary permits or licenses required, if necessary, in order to provide this service.



Bidder warrants by submittal that prices quoted here are in conformity with the latest federal price guidelines, if any.

3.6 WARRANTIES FOR USAGE

Whenever a bid is sought, seeking a source of supply for a specified time for materials or service, the quantities or usage shown are estimated only. No guarantee or warranty is given or implied by the City as to the total amount that may or may not be purchased from any resulting contracts. These quantities are for bidders information only and will be used for tabulation and presentation of bid.

3.7 BRAND NAMES

If and wherever in the specifications a brand name, make, name of manufacturer, trade name, or vendor catalog number is mentioned, it is for the purpose of establishing a grade or quality of material only. Since the City does not wish to rule out other competition and equal brands or makes, the phrase "OR EQUAL" is added. However, if a product other than that specified is bid, Bidders shall indicate on their proposal and clearly state the proposed substitution and deviation. It is the vendor's responsibility to provide any necessary documentation and samples within their bid submittal to prove that the product is equal to that specified. Such samples are to be furnished before the date of bid opening, unless otherwise specified. Additional evidence in the form of documentation and samples may be requested if the proposed brand is other than that specified. The City retains the right to determine if the proposed brand shall be considered as an approved equivalent or not.

3.8 QUALITY

All materials used for the manufacture or construction of any supplies, materials, or equipment covered by this bid shall be new, the latest model, of the best quality, and

highest grade workmanship, unless otherwise noted.

3.9 SAMPLES

Samples, when requested, must be furnished before, or at the bid opening, unless otherwise specified, and delivered free of expense to the City and if not used in testing or destroyed, will upon request within thirty (30) days of bid award be returned at the bidders expense.

3.10 DEVELOPMENT COSTS

Neither the City nor its representatives shall be liable for any expenses incurred in connection with the preparation, submission or presentation of a Bid in response to this solicitation. All information in the Bid shall be provided at no cost to the City.

3.11 PRICING

Prices should be stated in units of quantity specified in the bidding specifications. In case of discrepancy in computing the amount of the bid, the unit prices quoted will govern.

Bidder warrants by virtue of bidding that prices, terms, and conditions quoted in his bid will be firm for acceptance for a period of ninety (90) days from date of bid opening unless otherwise stated by the City or bidder.

3.12 DELIVERY POINT

All items shall be delivered F.O.B. destination, and delivery cost and charges included in the bid price. Failure to do so may be cause for rejection of bid.

3.13 TAX EXEMPT STATUS

The City is exempt from Florida Sales and Federal Excise taxes on direct purchase of tangible property.

3.14 CONTRACT TIME

By virtue of the submission of the Proposal, Proposer agrees and fully understands that



the completion time of the work of the Contract is an essential and material condition of the Contract and that time is of the essence. The Successful Proposer agrees that all work shall be prosecuted regularly, diligently and uninterrupted at such rate of progress as will ensure full completion thereof within the time specified. Failure to complete the work within the time period specified shall be considered a default.

In addition, time will be of the essence for any orders placed as a result of this bid. Purchaser reserves the right to cancel such orders, or part thereof, without obligation if delivery is not made at the time(s) or place(s) specified.

3.15 COPYRIGHT OR PATENT RIGHTS

Bidder warrants that there have been no violations of copyrights or patent rights in manufacturing, producing, or selling other goods shipped or ordered as a result of this bid, and seller agrees to hold the purchaser harmless from any and all liability, loss or expense occasioned by such violation.

3.16 PUBLIC ENTITY CRIMES

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

The Public Entity Crime Affidavit Form, attached to this solicitation, includes

documentation that shall be executed by an individual authorized to bind the Proposer. The Proposer further understands and accepts that any contract issued as a result of this solicitation shall be either voidable or subject to immediate termination by the City. In the event there is any misrepresentation or lack of compliance with the mandates of Section 287.133 or Section 287.134, respectively, Florida Statutes. The City in the event in such termination, shall not incur any liability to the Bidder for any goods, services or materials furnished.

3.17 CONFLICT OF INTEREST

The award of any contract hereunder is subject to the provisions of Chapter 112, Florida Statutes. Proposers must disclose with their Proposal the name of any officer, director, partner, proprietor, associate or agent who is also an officer or employee of CITY or any of its agencies. Further, all Proposers must disclose the name of any officer or employee of CITY who owns, directly or indirectly, an interest of five percent (5%) or more in the Proposer 's firm or any of its branches or affiliate companies.

3.18 FACILITIES

The City reserves the right to inspect the Bidder's facilities at any time with prior notice.

3.19 ENVIRONMENTAL REGULATIONS

CITY reserves the right to consider Proposer's history of citations and/or violations of environmental regulations in determining a Proposer's responsibility, and further reserves the right to declare a Proposer not responsible if the history of violations warrant such determination. Proposer shall submit with the Proposal, a complete history of all citations and/or violations, notices and dispositions thereof. The non-submission of any such documentation shall be deemed to be an affirmation by the Proposer that there are no citations or violations. Proposer shall notify



CITY immediately of notice of any citation or violation that Proposer may receive after the Proposal opening date and during the time of performance of any contract awarded to Proposers.

3.20 SIGNATURE REQUIRED

All proposals must be signed with the firm name and by an officer or employee having authority to bind the company or firm by his signature. FAILURE TO PROPERLY SIGN PROPOSAL SHALL INVALIDATE SAME, AND IT MAY NOT BE CONSIDERED FOR AWARD.

The individual executing this Bid on behalf of the Company warrant to the City that the Company is authorized to do business in the State of Florida, is in good standing and that Company possesses all of the required licenses and certificates of competency required by the State of Florida and Broward County to provide the goods or perform the services herein described.

The signed bid shall be considered an offer on the part of the bidder or contractor, which offer shall be deemed accepted upon approval by the City Commission of the City of Pembroke Pines and in case of default on the part of the bidder or contractor after such acceptance, the City of Pembroke Pines may take such action as it deems appropriate including legal action for damages or specific performance.

3.21 MANUFACTURER'S CERTIFICATION

The City of Pembroke Pines reserves the right to request from bidder separate manufacturer certification of all statements made in the proposal.

3.22 MODIFICATION OR WITHDRAWAL OF PROPOSAL

The City recommends for proposers to submit their proposals as soon as they are ready to do so. Please allow ample time to submit your proposals on the BidSync

website. Proposals may be modified or withdrawn prior to the deadline for submitting Proposals.

3.23 PUBLIC BID; BID OPENING AND GENERAL EXEMPTIONS

All submittals received by the deadline will be recorded, and will subsequently be publicly opened on the same business day at 2:30 p.m. at the office of the City Clerk, 4th Floor, 601 City Center Way, Pembroke Pines, Florida, 33025.

All Proposals received from Proposers in response to the solicitation will become the property of CITY and will not be returned to the Proposers. In the event of Contract award, all documentation produced as part of the Contract shall become the exclusive property of CITY. Proposers are requested to identify specifically any information contained in their Proposals which they consider confidential and/or proprietary and which they believe to be exempt from disclosure, citing specifically the applicable exempting law.

Pursuant to Section 119.071 of the Florida Statutes, sealed bids, proposals, or replies received by a Florida public agency shall remain exempt from disclosure until an intended decision is announced or until 30 days from the opening, whichever is earlier.

Therefore, bidders will not be able to procure a copy of their competitor's bids until an intended decision is reached or 30 days has elapsed since the time of the bid opening.

However, pursuant to Section 255.0518 of the Florida Statutes, when opening sealed bids that are received pursuant to a competitive solicitation for **construction or repairs on a public building or public work**, the entity shall:

- (a) Open the sealed bids at a public meeting.



- (b) Announce at that meeting the name of each bidder and the price submitted in the bid.
- (c) Make available upon request the name of each bidder and the price submitted in the bid.

For solicitations that are **not** for **“construction or repairs on a public building or public work”** the City shall not reveal the prices submitted in the bids until an intended decision is announced or until 30 days from the opening, whichever is earlier.

3.24 RESERVATIONS FOR REJECTION AND AWARD

The City of Pembroke Pines reserves the right to accept or reject any and all bids or parts of bids, to waive irregularities and technicalities, and to request rebids. The City also reserves the right to award a contract on such items(s) or service(s) the City deems will best serve its interests. All bids shall be awarded to the most responsive/responsible bidder, provided the (City) may for good cause reject any bid or part thereof. It further reserves the right to award a contract on a split order basis, or such combinations as shall best serve the interests of the City unless otherwise specified. No premiums, rebates or gratuities permitted, either with, prior to, or after award. This practice shall result in the cancellation of said award and/or return of items (as applicable) and the recommended removal of bidder from bid list(s).

3.25 BID PROTEST

Any protests or challenges to this competitive procurement shall be governed by Section 35.38 of the City’s Code of Ordinances.

3.26 INDEMNIFICATION

The Successful Proposer shall pay all claims, losses, liens, settlements or judgments of any nature whatsoever in connection with the subsequent indemnifications including, but not limited to,

reasonable attorney's fees (including appellate attorney's fees) and costs.

CITY reserves the right to select its own legal counsel to conduct any defense in any such proceeding and all costs and fees associated therewith shall be the responsibility of Successful Proposer under the indemnification agreement. Nothing contained herein is intended nor shall it be construed to waive City’s rights and immunities under the common law or Florida Statute 768.28 as amended from time to time.

Additional indemnification requirements may be included under Special Terms and Conditions and/or as part of a specimen contract included in the solicitation package.

General Indemnification: To the fullest extent permitted by laws and regulations, Successful Proposer shall indemnify, defend, save and hold harmless the CITY, its officers, agents and employees, harmless from any and all claims, damages, losses, liabilities and expenses, direct, indirect or consequential arising out of or in consequence of the products, goods or services furnished by or operations of the Successful Proposer or his subcontractors, agents, officers, employees or independent contractors pursuant to or in the performance of the Contract.

Patent and Copyright Indemnification: Successful Proposer agrees to indemnify, defend, save and hold harmless the CITY, its officers, agents and employees, from all claims, damages, losses, liabilities and expenses arising out of any alleged infringement of copyrights, patent rights and/or the unauthorized or unlicensed use of any invention, process, material, property or other work manufactured or used in connection with the performance of the Contract, including its use by CITY.

3.27 DEFAULT PROVISION



In the case of default by the bidder or contractor, the City of Pembroke Pines may procure the articles or services from any other sources and hold the bidder or contractor responsible for any excess costs occasioned or incurred thereby.

The City shall be the sole judge of nonperformance, which shall include any failure on the part of the successful Bidder to accept the Award, to furnish required documents, and/or to fulfill any portion of the contract within the time stipulated. Upon default by the successful Bidder to meet any terms of this agreement, the City will notify the Bidder five (5) days (weekends and holidays excluded) to remedy the default. Failure on the Contractor's part to correct the default within the required five (5) days shall result in the contract being terminated and upon the City notifying in writing the Contractor of its intentions and the effective date of the termination. The following shall constitute default:

- A. Failure to perform the Work required under the contract and/or within the time required or failing to use the subcontractor, entities and personnel as identified and set forth, and to the degree specified in the contract.
- B. Failure to begin the Work under this Bid within the time specified.
- C. Failure to perform the Work with sufficient Workers and equipment or with sufficient materials to ensure timely completion.
- D. Neglecting or refusing to remove materials or perform new Work where prior Work has been rejected as non-conforming with the terms of the contract.
- E. Becoming insolvent, being declared bankrupt, or committing act of bankruptcy or insolvency, or making an assignment renders the successful Bidder incapable of performing the Work in accordance with and as required by the contract.

F. Failure to comply with any of the terms of the contract in any material respect.

In the event of default of a contract, the successful Bidder shall pay all attorney's fees and court costs incurred in collecting any damages. The successful Bidder shall pay the City for any and all costs incurred in ensuing the completion of the project.

Additional provisions may be included in the specimen contract.

3.28 ACCEPTANCE OF MATERIAL

The material delivered under this proposal shall remain the property of the seller until a physical inspection and actual usage of this material and/or services is made and thereafter accepted to the satisfaction of the City and must comply with the terms herein, and be fully in accord with specifications and of the highest quality. In the event the material and/or services supplied to the City are found to be defective or do not conform to specifications, the City reserves the right to cancel the order upon written notice to the seller and return product to seller at the sellers expense.

3.29 LOCAL GOVERNMENT PROMPT PAYMENT ACT

The City complies with Florida Statute 218.70, Florida Prompt Payment Act.

3.30 SCRUTINIZED COMPANIES LIST

In accordance with Florida Statute 287.135, as amended, a company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with an agency or local governmental entity for goods or services if:

- (a) Any amount of, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725, or is engaged in a boycott of Israel; or



(b) One million dollars or more if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company:

- 1. Is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473; or
- 2. Is engaged in business operations in Syria.

By submitting a bid, proposal or response, the company, principals or owners certify that they are not listed on the Scrutinized Companies that boycott Israel List, Scrutinized Companies with activities in Sudan List, Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or is engaged in business operations in Syria.

3.31 PUBLIC RECORDS; TRADE SECRET, PROPRIETARY AND CONFIDENTIAL SUBMITTALS

The Proposer’s response to this solicitation is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 (“Public Records Law”). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this solicitation and the Contract to be executed for this solicitation, subject to the provisions of Chapter 119.07 of the Florida Statutes.

Any language contained in the Proposer’s response to the solicitation purporting to require confidentiality of any portion of the Proposer’s response to the solicitation, except to the extent that certain information is in the City’s opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer

claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 (“Public Records Laws”), the Proposer shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer’s response to the solicitation constitutes a Trade Secret.

Any claim of confidentiality on financial statements must be asserted at the time of submittal. The firm must identify the specific statute that authorizes the exemption from the Public Records Law. Please note that the financial statement exemption provided for in Section 119.071(1)c, Florida Statutes only applies to submittals in response to a solicitation for a “public works” project.

EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED. ALL DOCUMENTS THAT THE FIRM PURPORTS TO BE CONFIDENTIAL, PROPRIETARY OR A TRADE SECRET SHALL BE UPLOADED TO THE BIDS SYNC WEBSITE AS A SEPARATE ATTACHMENT CLEARLY IDENTIFYING THE EXEMPTION BEING CLAIMED UNDER FLORIDA STATUTES 119.07.

The city’s determination of whether an exemption applies shall be final, and the proposer agrees to defend, indemnify, and hold harmless the city and the city’s officers, employees, and agent, against any loss or damages incurred by any person or entity as a result of the city’s treatment of records as public records.



SECTION 4 - SPECIAL TERMS & CONDITIONS

4.1 PROPOSAL SECURITY

Not applicable for this solicitation.

4.2 PAYMENT AND PERFORMANCE BONDS

Within fifteen (15) calendar days after Notice of Award and in any event prior to commencing work, the Contractor shall execute and furnish to City a performance bond and a payment bond, each written by a corporate surety, having a resident agent in the State of Florida and having been in business with a record of successful continuous operation for at least five (5) years. The surety shall hold a current certificate of authority from the Secretary of Treasury of the United States as an acceptable surety on federal bonds in accordance with United States Department of Treasury Circular No. 570. If the amount of the Bond exceeds the underwriting limitation set forth in the circular, in order to qualify, the net retention of the surety company shall not exceed the underwriting limitation in the circular and the excess risks must be protected by coinsurance, reinsurance, or other methods, in accordance with Treasury Circular 297, revised September 1, 1978 (31DFR, Section 223.10, Section 223.11). Further, the surety company shall provide City with evidence satisfactory to City, that such excess risk has been protected in an acceptable manner. The surety company shall have at least the following minimum qualification in accordance with the latest edition of A.M. Best's Insurance Guide, published by Alfred M. Best Company, Inc., Ambest Road, Oldwick, New Jersey 08858:

B+ to A+

Two (2) separate bonds are required and both must be approved by the City. **The**

penal sum stated in each bond shall be 100% of the contract price. The performance bond shall be conditioned that the Contractor performs the contract in the time and manner prescribed in the contract. The payment bond shall be conditioned that the Contractor promptly make payments to all persons who supply the Contractor with labor, materials and supplies used directly or indirectly by the Contractor in the prosecution of the work provided for in the Contract and shall provide that the surety shall pay the same in the amount not exceeding the sum provided in such bonds, together with interest at the maximum rate allowed by law; and that they shall indemnify and save harmless the City to the extent of any and all payments in connection with the carrying out of said Contract which the City may be required to make under the law.

Pursuant to the requirements of Section 255.05(1)(a), Florida Statutes, it shall be the duty of the Contractor to record the aforesaid payment and performance bonds in the public records of Broward County, with the Contractor to pay all recording costs.

4.3 OWNER'S CONTINGENCY

While the specifications contained in this solicitation and any ensuing Purchase Orders or contracts have incorporated all anticipated work to be accomplished, there may be unanticipated work required of the vendor in conjunction with a specific project. For this reason, the City Commission may award a project with an "Owner's Contingency". This contingency or allowance authorizes the City execute change orders up to the amount of the contingency without the need to obtain additional Commission approval. The Owner's Contingency is usually based on a specified percent of the proposed project amount and is established for the specific project being performed under the contract. This dollar amount shall be shown on the specific project purchase order as a distinct item from the vendor's overall offer to



determine the total potential dollar value of the contract. It is hereby understood and agreed that the vendor shall not expend any dollars in connection with the Owner's Contingency without the expressed prior approval of the City's authorized representative. Any Owner's Contingency funds that have not been utilized at the end of the project will remain with the Owner, the contractor shall only be paid for the proposed project cost as approved by the City Commission along with any Owner Contingency expenses that were approved by the City's authorized representative.

4.4 RELEASE OF LIEN

Contractor must provide an executed Partial/Final Release of Lien utilizing the City's standard Release of Lien Form in order for the City to release any payments to the Contractor.

4.5 SOLID WASTE CONSTRUCTION AND DEMOLITION DEBRIS COLLECTION AND DISPOSAL REQUIREMENTS

The City of Pembroke Pines has an exclusive solid waste franchise agreement with Waste Pro of Florida, Inc. for the collection and disposal of all solid waste including construction and demolition (C & D) debris. All applicants for bids to perform construction work for the City of Pembroke Pines shall be subject to the requirements found in the City's exclusive solid waste franchise agreement and must contract Waste Pro of Florida, Inc. for the collection and disposal of all construction and demolition debris generated at such construction job sites.

For the current applicable rates and fees for Waste Pro of Florida, Inc. dumpsters, roll-off containers, and other related solid waste service equipment needs, please contact David Perez, Waste Pro's Pembroke Pines Sales Representative at (954) 967-4200 or dperez@wasteprousa.com.

For further information related to the solid waste franchise requirements, please contact Rose Colombo, Solid Waste Franchise Agreement Contract Manager, at (954) 518-9011 or rcolombo@ppines.com.

For solid waste franchise enforcement questions, please contact the City of Pembroke Pines Code Compliance Unit at (954) 431-4466.



CONTACT INFORMATION FORM

IN ACCORDANCE WITH “PSEN-19-04” titled “Wastewater Treatment Plant West Blower Building Electrical Modification” attached hereto as a part hereof, the undersigned submits the following:

A) Contact Information

The Contact information form shall be electronically signed by one duly authorized to do so, and in case signed by a deputy or subordinate, the principal's properly written authority to such deputy or subordinate must accompany the proposal. This form must be completed and submitted through www.bidsync.com as part of the bidder's submittal. The vendor must provide their pricing through the designated lines items listed on the BidSync website.

COMPANY INFORMATION:

COMPANY:

STREET ADDRESS:

CITY, STATE & ZIP CODE:

PRIMARY CONTACT FOR THE PROJECT:

NAME: TITLE:

E-MAIL:

TELEPHONE: FAX:

AUTHORIZED APPROVER:

NAME: TITLE:

E-MAIL:

TELEPHONE: FAX:

SIGNATURE:

B) Proposal Checklist

Did you make sure to submit the following items, as stated in section 1.5 “Proposal Requirements” of the bid package?

1. Attachment A - Contact Information Form	Yes
2. Attachment B - Non-Collusive Affidavit	Yes

3. Attachment C - Proposer's Completed Qualification Statement	Yes
4. Attachment F - References Form	Yes
5. Attachment G – Mandatory Pre-Bid Meeting Form	Yes
6. Attachment H - Standard Release of Lien Form	Yes
Does your proposal exceed \$200,000 for this construction project? If so, please include a Proposal Security (Bid Bond or Cashier's Check) along with a separate line item to provide a Payment and Performance Bond. (See Bid Package for details)	Yes
Are all materials, freight, labor and warranties included?	Yes

Did you make sure to update the following documents found under the "Vendor Registration" group of "Qualifications" on the BidSync website for the City of Pembroke Pines?

Vendor Information Form	Yes
Form W-9 (Rev. October 2018)	Yes
Sworn Statement on Public Entity Crimes Form	Yes
Local Vendor Preference Certification	Yes
Local Business Tax Receipts	Yes
Veteran Owned Small Business Preference Certification	Yes
Equal Benefits Certification Form	Yes
Vendor Drug-Free Workplace Certification Form	Yes
Scrutinized Company Certification	Yes

C) Sample Proposal Form

The following sample price proposal is for information only. The vendor must provide their pricing through the designated lines items listed on the BidSync website.

Item	Description	Total
1)	Project Cost	Price to be Submitted Via BidSync
2)	Additional Cost to provide a Payment & Performance Bond (If Applicable)	Price to be Submitted Via BidSync

**NON-COLLUSIVE AFFIDAVIT**

BIDDER is the _____,
(Owner, Partner, Officer, Representative or Agent)

BIDDER is fully informed respecting the preparation and contents of the attached Bid and of all pertinent circumstances respecting such Bid;

Such Bid is genuine and is not a collusive or sham Bid;

Neither the said BIDDER nor any of its officers, partners, owners, agents, representative, employees or parties in interest, including this affidavit, have in any way colluded, conspired, connived or agreed, directly or indirectly, with any other BIDDER, firm or person to submit a collusive or sham Bid in connection with the Contract for which the attached Bid has been submitted; or to refrain from bidding in connection with such Contract; or have in any manner, directly or indirectly, sought by agreement or collusion, or communications, or conference with any BIDDER, firm, or person to fix the price or prices in the attached Bid or any other BIDDER, or to fix any overhead, profit, or cost element of the Bid Price or the Bid Price of any other BIDDER, or to secure through any collusion conspiracy, connivance, or unlawful agreement any advantage against (Recipient), or any person interested in the proposed Contract;

The price of items quoted in the attached Bid are fair and proper and are not tainted by collusion, conspiracy, connivance, or unlawful agreement on the part of the BIDDER or any other of its agents, representatives, owners, employees or parties in interest, including this affidavit.

Printed Name/Signature

Title

Name of Company



PROPOSER'S QUALIFICATIONS STATEMENT

PROPOSER shall furnish the following information. Failure to comply with this requirement will render Bid non responsive and shall cause its rejection. Additional sheets shall be attached as required.

PROPOSER'S Name and Principal Address:

PROPOSER'S License Number:

(Please attach certificate of status, competency, and/or state registration.)

Number of years your organization has been in business

State the number of years your firm has been in business under your present business name

State the number of years your firm has been in business in the work specific to this solicitation:

Names and titles of all officers, partners or individuals doing business under trade name:

IF USING A FICTITIOUS NAME, SUBMIT EVIDENCE OF COMPLIANCE WITH FLORIDA FICTITIOUS NAME STATUTE.

Under what former name has your business operated? Include a description of the business. Failure to include such information shall be deemed to be intentional misrepresentation by the City and shall render the proposer non-responsive.

At what address was that business located?

Name, address, and telephone number of surety company and agent who will provide the required bonds on this contract:

Have you ever failed to complete work awarded to you. If so, when, where and why?

Have you personally inspected the proposed WORK and do you have a complete plan for its performance?

Will you subcontract any part of this WORK? If so, give details including a list of each sub-contractor(s) that will perform work in excess of ten percent (10%) of the contract amount and the work that will be performed by each subcontractor(s).

The foregoing list of subcontractor(s) may not be amended after award of the contract without the prior written approval of the Contract Administrator, whose approval shall not be reasonably withheld.

List and describe all bankruptcy petitions (voluntary or involuntary) which have been filed by or against the Proposer, its parent or subsidiaries or predecessor organizations during the past five (5) years. Include in the description the disposition of each such petition.

List and describe all successful Bond claims made to your surety (ies) during the last five (5) years. The list and descriptions should include claims against the bond of the Proposer and its predecessor organization(s).

List all claims, arbitrations, administrative hearings and lawsuits brought by or against the Proposer or its predecessor organizations(s) during the last (10) years. The list shall include all case names; case, arbitration or hearing identification numbers; the name of the project over which the dispute arose; and a description of the subject matter

of the dispute.

List and describe all criminal proceedings or hearings concerning business related offenses in which the Proposer, its principals or officers or predecessor organization(s) were defendants.

Are you an Original provider sales representative distributor, broker, manufacturer other, of the commodities/services proposed upon? If other than the original provider, explain below.

Have you ever been debarred or suspended from doing business with any governmental agency? If yes, please explain:

Describe the firm's local experience/nature of service with contracts of similar size and complexity, it the previous three (3) years:

The PROPOSER acknowledges and understands that the information contained in response to this Qualification Statement shall be relied upon by CITY in awarding the contract and such information is warranted by PROPOSER to be true. The discovery of any omission or misstatement that materially affects the PROPOSER's qualifications to perform under the contract shall cause the CITY to reject the Bid, and if after the award, to cancel and terminate the award and/or contract.

(Company Name)

(Printed Name/Signature)

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD[YY])

<p>PRODUCER</p>	<p>THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.</p>
<p>INSURERS AFFORDING COVERAGE</p>	
<p>INSURED</p> <div style="border: 1px solid black; padding: 10px; text-align: center; font-size: 24px; font-weight: bold;"> YOUR COMPANY NAME HERE </div>	<p>INSURER A: </p> <p>INSURER B: </p> <p>INSURER C: </p> <p>INSURER D: </p> <p>INSURER E: </p> <div style="border: 1px solid black; padding: 5px; text-align: center; font-weight: bold;"> Companies providing coverage </div>

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DDYY)	POLICY EXPIRATION DATE (MM/DDYY)	LIMITS												
	<p>GENERAL LIABILITY</p> <p><input type="checkbox"/> COMMERCIAL GENERAL LIABILITY</p> <p><input checked="" type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR</p> <p>GEN'L AGGREGATE LIMIT APPLIES PER:</p> <p><input type="checkbox"/> policy <input type="checkbox"/> project <input type="checkbox"/> loc</p>	Must Include General Liability			<p>EACH OCCURRENCE \$</p> <p>FIRE DAMAGE (Any one fire) \$</p> <p>MED EXP (Any one person) \$</p> <p>PERSONAL & ADV INJURY \$</p> <p>GENERAL AGGREGATE \$</p> <p>PRODUCTS - COMP/OP AGG \$</p>												
	<p>AUTOMOBILE LIABILITY</p> <p><input type="checkbox"/> ANY AUTO</p> <p><input type="checkbox"/> ALL OWNED AUTOS</p> <p><input type="checkbox"/> SCHEDULED AUTOS</p> <p><input type="checkbox"/> HIRED AUTOS</p> <p><input type="checkbox"/> NON-OWNED AUTOS</p>	SAMPLE CERTIFICATE															
	<p>GARAGE LIABILITY</p> <p><input type="checkbox"/> ANY AUTO</p>				<p>AUTO ONLY - EA ACCIDENT \$</p> <p>OTHER THAN EA ACC \$</p> <p>AUTO ONLY: AGG \$</p>												
	<p>EXCESS LIABILITY</p> <p>OCCUR <input type="checkbox"/> CLAIMS MADE</p> <p>DEDUCTIBLE</p> <p>RETENTION \$</p>				<p>EACH OCCURRENCE \$</p> <p>AGGREGATE \$</p> <p>\$</p> <p>\$</p> <p>\$</p>												
	<p>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</p>				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">WC STATU-TORY LIMITS</td> <td style="width:10%;">OTH-ER</td> <td style="width:80%;"></td> </tr> <tr> <td colspan="2"></td> <td>E.L. EACH ACCIDENT \$</td> </tr> <tr> <td colspan="2"></td> <td>E.L. DISEASE - EA EMPLOYEE \$</td> </tr> <tr> <td colspan="2"></td> <td>E.L. DISEASE - POLICY LIMIT \$</td> </tr> </table>	WC STATU-TORY LIMITS	OTH-ER				E.L. EACH ACCIDENT \$			E.L. DISEASE - EA EMPLOYEE \$			E.L. DISEASE - POLICY LIMIT \$
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		E.L. DISEASE - POLICY LIMIT \$															
	<p>OTHER</p>																

Certificate must contain wording similar to what appears below

"THE CERTIFICATE HOLDER IS NAMED AS ADDITIONALLY INSURED WITH REGARD TO GENERAL LIABILITY"

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCL

<p>CERTIFICATE HOLDER</p> <p>City of Pembroke Pines 601 City Center Way Pembroke Pines FL 33025</p>	<p>ADDITIONAL INSURED; INSURER LETTER:</p>	<p>CANCELLATION</p> <p>SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE, MAIL 30 DAYS WRITTEN LEFT.</p>
		City Must Be Named as Certificate Holder
		<p>AUTHORIZED REPRESENTATIVE</p>



CONSTRUCTION AGREEMENT

THIS IS AN AGREEMENT, dated the _____ day of _____, «Contract_Signature_Year», by and between:

CITY OF PEMBROKE PINES, a municipal corporation of the State of Florida with a business address of **601 City Center Way, Pembroke Pines, Florida 33025** hereinafter referred to as "CITY",

and

«Vendor_Name_Upper_Case», a «Vendor_Business_Type», authorized to do business in the State of Florida, with a business address of «Vendor_Address_Line_1», «Vendor_Address_Line_2» (hereinafter referred to as the "CONTRACTOR"). CITY and CONTRACTOR may hereinafter be referred to collectively as the "Parties."

WITNESSETH:

In consideration of the mutual terms and conditions, promises, covenants and payments hereinafter set forth, CITY and CONTRACTOR agree as follows:

ARTICLE 1
PREAMBLE

In order to establish the background, context and form of reference for this Agreement, and to generally express the objectives and intentions of the respective parties herein, the following statements, representations, and explanations shall be accepted as predicates for the undertakings and commitments included within the provisions which follow, and may be relied upon by the parties as essential elements of the mutual considerations upon which this Agreement is based.

1.1 On «Solicitation_Advertisement_Date», the CITY advertised its notice to bidders of the CITY's desire to hire a firm to «Service_Description» as more particularly described in **Exhibit "A"** attached hereto and by this reference made a part hereof, for the said bid entitled:

«Solicitation_Type_Abbreviation» # «Solicitation_Number»
“«Solicitation_Title»”

1.2 On «Bid_Opening_Date», the bids were opened at the offices of the City Clerk.

1.3 On «Commission_Award_Date», the CITY awarded the bid to CONTRACTOR and authorized the proper CITY officials to negotiate and enter into an agreement with CONTRACTOR to render the services more particularly described herein below.



1.4 Negotiations pertaining to the services to be performed by the CONTRACTOR were undertaken and this Agreement incorporates the results of such negotiation.

ARTICLE 2

SERVICES AND RESPONSIBILITIES

2.1 CONTRACTOR hereby agrees to perform the services for the «**Service_Description**», as more particularly described in **Exhibit "A"** attached hereto and by this reference made a part hereof, ("Property") in accordance with the Scope of Services outlined in the specifications, "**«Solicitation_Type_Abbreviation» # «Solicitation_Number»**", attached hereto and made a part hereof as **Exhibit "A"** and CONTRACTOR's response thereto, attached hereto and made a part hereof as **Composite Exhibit "B"**. CONTRACTOR agrees to do everything required by this Agreement, the Sealed Bid Package, Addenda to this Agreement, and Commission award complete with proposal form.

2.2 CONTRACTOR shall furnish all services, labor, equipment, and materials necessary and as may be required in the performance of this Agreement, except as otherwise specifically provided for herein, and all work performed under this Agreement shall be done in a professional manner.

2.3 CONTRACTOR shall supervise the work force to ensure that all workers conduct themselves and perform their work in a safe and professional manner. CONTRACTOR shall comply with all OSHA safety rules and regulations in the operation of equipment and in the performance of the work. CONTRACTOR shall at all times have a competent field supervisor on the job site to enforce these policies and procedures at the CONTRACTOR's expense.

2.4 CONTRACTOR shall provide CITY with seventy-two (72) hours written notice prior to the beginning of work under this Agreement and prior to any schedule change with the exception of changes caused by inclement weather.

2.5 CONTRACTOR hereby represents to CITY, with full knowledge that CITY is relying upon these representations when entering into this Agreement with CONTRACTOR, that CONTRACTOR has the professional expertise, experience and manpower to perform the services to be provided by CONTRACTOR pursuant to the terms of this Agreement.

2.6 CONTRACTOR hereby represents to CITY that CONTRACTOR is properly licensed by the applicable federal, state, and local agencies to provide the services under this Agreement. Furthermore, CONTRACTOR agrees to maintain such licenses during the term of this Agreement. If CONTRACTOR's license is revoked, suspended, or terminated for any reason by any governmental agency, CONTRACTOR shall notify the CITY immediately.

2.7 CONTRACTOR shall comply with any and all Federal, State, and local laws and regulations now in effect, or hereinafter enacted during the term of this Agreement, which are applicable to CONTRACTOR, its employees, agents or subcontractors, if any, with respect to the work and services described herein. A violation of any federal, state, or local law or regulation may be cause for breach, allowing the CITY to terminate this Agreement.



ARTICLE 3
TIME OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

3.1 The work to be performed under this Agreement shall be commenced after CITY execution of the Agreement and not later than ten (10) days after the date that CONTRACTOR receives CITY's Notice to Proceed. The work shall be completed within «**Number of Calendar Days from NTP to Comm**» from issuance of CITY's Notice to Proceed, subject to any permitted extensions of time under the Contract Documents. For the purposes of this Agreement, completion shall mean the issuance of final permit.

3.2 During the pre-construction portion of the work hereunder, the parties agree to work diligently and in good faith in performing their obligations hereunder, so that all required permits for the construction portion of the work may be obtained. In the event that any delays in the pre-construction or construction portion of the work occur, despite the diligent efforts of the parties hereto, and such delays are the result of force majeure or are otherwise outside of the control of either party hereto, then the parties shall agree on an equitable extension of the time for substantial completion hereunder and any resulting increase in general condition costs.

3.3 In the event that CONTRACTOR abandons this Agreement or causes it to be terminated, he shall indemnify CITY against any loss pertaining to this termination up to a maximum of the full contracted fee amount. All finished or unfinished documents, data, studies, surveys, and reports prepared by CONTRACTOR shall become the property of CITY and shall be delivered by CONTRACTOR to CITY.

ARTICLE 4
COMPENSATION AND METHOD OF PAYMENT

4.1 CITY agrees to compensate CONTRACTOR for all services performed by CONTRACTOR upon issuance of final inspection approval / monthly for work that has been completed, inspected and properly invoiced «**Compensation Type**» «**Compensation Amount Written**» («**Compensation Amount Numerical**»), which includes a «**Contingency Fee Percent**» owner's contingency fee of «**Contingency Fee Written**» («**Contingency Fee Numerical**») and a «**Permit Fee Percent**» permit allowance of «**Permit Fee Written**» («**Permit Fee Numerical**»).

4.1.1 This contingency or allowance authorizes the City to execute change orders up to the amount of the contingency without the need to obtain additional Commission approval. **It is hereby understood and agreed that the vendor shall not expend any dollars in connection with the Owner's Contingency or Allowance without the expressed prior approval of the City's authorized representative.** Any Owner's Contingency funds or allowance that have not been utilized at the end of the project will remain with the Owner, the contractor shall only be paid for the proposed project cost as approved by the City Commission along with any Owner Contingency expenses or allowances that were approved by the City's authorized representative.



4.1.2 The total compensation amount may not be exceeded without a written amendment to this Agreement. A retainage of ten percent (10%) will be deducted from monthly payments until fifty percent (50%) of the project is complete. Retainage will be reduced to five percent (5%) thereafter. Retainage monies will be released upon satisfactory completion and final inspection of the work. Invoices must bear the project name, project number, bid number and purchase order number. CITY has up to thirty (30) days to review, approve and pay all invoices after receipt. CONTRACTOR shall invoice CITY and provide a written request to CITY to commence the one (1) year warranty period. All necessary Releases and Affidavits and approval of Final Payments shall be processed before the warranty period begins. All payments shall be governed by the Florida Prompt Payment Act, as set forth in Part VII, Chapter 218, Florida Statutes.

4.2 Method of Billing and Payment.

4.2.1 The CITY shall within thirty (30) days, from the date the City's Public Service Director approves the Application for Payment, pay the CONTRACTOR the amount approved by the City Public Services Director or his or her assignees.

4.2.2 Payment will be made to CONTRACTOR at:

- «Vendor_Name»
- «Vendor_Address_Line_1»
- «Vendor_Address_Line_2»

**ARTICLE 5
WAIVER OF LIENS**

5.1 Prior to final payment of the Contract Sum, a final waiver of lien shall be submitted by all suppliers, subcontractors, and/or contractors who worked on the project that is the subject of this Agreement. Payment of the invoice and acceptance of such payment by CONTRACTOR shall release CITY from all claims of liability by CONTRACTOR in connection with this Agreement.

**ARTICLE 6
WARRANTY**

6.1 CONTRACTOR warrants the work against defect for a period of one (1) year from the date of completion of work. In the event that defect occurs during this time, CONTRACTOR shall perform such steps as required to remedy the defects. CONTRACTOR shall be responsible for any damages caused by defect to affected area or to interior structure. The one (1) year warranty period does not begin until substantial completion of the entire project, and the subsequent release of any Performance or Payment Bonds, which may be required by the original bid document.

**ARTICLE 7
CHANGES IN SCOPE OF WORK**

7.1 CITY or CONTRACTOR may request changes that would increase, decrease, or otherwise modify the Scope of Services, as described in **Exhibit "A,"** to be provided under this Agreement as



described in Article 2 of this Agreement. These changes will affect the monthly compensation accordingly. Such changes or additional services must be in accordance with the provisions of the Code of Ordinances of the CITY, and must be contained in a written amendment, executed by the parties hereto, with the same formality, equality and dignity herewith prior to any deviation from the terms of this Agreement, including the initiation of any additional or extra work.

7.2 In no event will the CONTRACTOR be compensated for any work which has not been described in a separate written agreement executed by the parties hereto.

ARTICLE 8 **INDEMNIFICATION**

8.1 Pursuant to 725.06, Florida Statutes, the parties agree that one hundred percent (100%) of the total compensation paid to CONTRACTOR for the Work under this Agreement shall constitute specific consideration to CONTRACTOR for the indemnification to be provided under this Agreement. CONTRACTOR shall indemnify and hold harmless the CITY, its trustees, elected and appointed officers, agents, servants, assigns, employees, consultants, separate contractors, any of their subcontractors, sub-subcontractors, agents and employees from and against claims, demands, or causes of action whatsoever, and the resulting losses, damages, costs and expenses, including but not limited to attorneys' fees, including paralegal expenses, liabilities, damages, orders, judgments, or decrees, sustained by the CITY arising out of or resulting from performance of the Work or the failure of the CONTRACTOR to take out and maintain insurance as required under this Agreement.

8.2 Upon completion of all Services, obligations and duties provided for in this Agreement, or in the event of termination of this Agreement for any reason, the terms and conditions of this Article shall survive indefinitely.

8.3 CITY reserves the right to select its own legal counsel to conduct any defense in any such proceeding and all costs and fees associated therewith shall be the responsibility of CONTRACTOR.

8.4 Nothing contained herein is intended nor shall be construed to waive City's rights and immunities under the common law or §768.28, Florida Statutes, as may be amended from time to time.

ARTICLE 9 **INSURANCE**

9.1 The CONTRACTOR shall indemnify and hold harmless the CITY and its officers, employees, agents and instrumentalities from any and all liability, losses or damages, including attorneys' fees and costs of defense, which the CITY or its officers, employees, agents or instrumentalities may incur as a result of claims, demands, suits, causes of actions or proceedings of any kind or nature arising out of, relating to or resulting from the performance of this Agreement by the CONTRACTOR or its employees, agents, servants, partners principals or subcontractors.



The CONTRACTOR shall pay all claims and losses in connection therewith and shall investigate and defend all claims, suits or actions of any kind or nature in the name of the CITY, where applicable, including appellate proceedings, and shall pay all costs, judgments, and attorney's fees which may issue thereon. The CONTRACTOR expressly understands and agrees that any insurance protection required by this Agreement or otherwise provided by the CONTRACTOR shall in no way limit the responsibility to indemnify, keep and save harmless and defend the CITY or its officers, employees, agents and instrumentalities as herein provided.

9.2 CONTRACTOR shall not commence work under this Agreement until it has obtained all insurance required under this paragraph and such insurance has been approved by the Risk Manager of the CITY nor shall the CONTRACTOR allow any subcontractor to commence work on his subcontract until all similar such insurance required of the subcontractor has been obtained and similarly approved.

9.3 Certificates of Insurance, reflecting evidence of the required insurance, shall be filed with the City's Risk Manager prior to the commencement of this Agreement. Policies shall be issued by companies authorized to do business under the laws of the State of Florida. The insurance company shall be rated no less than "A" as to management, and no less than "Class VI" as to financial strength according to the latest edition of Best's Insurance Guide published by A.M. Best Company.

9.4 Policies shall be endorsed to provide the CITY thirty (30) days notice of cancellation or the CONTRACTOR shall obtain written agreement from its Agent to provide the CITY thirty (30) days notice of cancellation.

9.5 Insurance shall be in force until all obligations required to be fulfilled under the terms of the Agreement are satisfactorily completed as evidenced by the formal acceptance by the CITY. In the event the insurance certificate provided indicates that the insurance shall terminate and lapse during the period of this Agreement, then in that event, the CONTRACTOR shall furnish, at least forty-five (45) days prior to the expiration of the date of such insurance, a renewed certificate of insurance as proof that equal and like coverage for the balance of the period of the Agreement and extension thereunder is in effect. The CONTRACTOR shall not commence nor continue to provide any services pursuant to this Agreement unless all required insurance remains in full force and effect. CONTRACTOR shall be liable to CITY for any lapses in service resulting from a gap in insurance coverage.

9.6 REQUIRED INSURANCE

9.6.1 Comprehensive General Liability Insurance written on an occurrence basis including, but not limited to: coverage for bodily injury and property damage, personal & advertising injury, products & completed operations, and contractual liability. Coverage must be written on an occurrence basis, with limits of liability no less than:

1. Each Occurrence Limit - \$1,000,000
2. Fire Damage Limit (Damage to rented premises) - \$100,000



- 3. Personal & Advertising Injury Limit - \$1,000,000
- 4. General Aggregate Limit - \$2,000,000
- 5. Products & Completed Operations Aggregate Limit - \$2,000,000

Products & Completed Operations Coverage shall be maintained for two (2) years after the final payment under this contract.

The City of Pembroke Pines must be shown as an additional insured with respect to this coverage.

9.6.2 Worker’s Compensation and Employers Liability Insurance covering all employees, and/or volunteers of the CONTRACTOR engaged in the performance of the scope of work associated with this Agreement. In the case any work is sublet, the CONTRACTOR shall require the subcontractors similarly to provide Workers Compensation Insurance for all the latter’s employees unless such employees are covered by the protection afforded by the CONTRACTOR. Coverage for the CONTRACTOR and his subcontractors shall be in accordance with applicable state and/or federal laws that may apply to Workers’ Compensation Insurance with limits of liability no less than:

- 1. Workers’ Compensation: Coverage A – Statutory
- 2. Employers Liability: Coverage B \$500,000 Each Accident
\$500,000 Disease – Policy Limit
\$500,000 Disease – Each Employee

If CONTRACTOR claims to be exempt from this requirement, CONTRACTOR shall provide CITY proof of such exemption along with a written request for CITY to exempt CONTRACTOR, written on CONTRACTOR letterhead.

9.6.3 Comprehensive Auto Liability Insurance covering all owned, non-owned and hired vehicles used in connection with the performance of work under this Agreement, with a combined single limit of liability for bodily injury and property damage no less than:

- 1. Any Auto (Symbol 1)
Combined Single Limit (Each Accident) - \$1,000,000
- 2. Hired Autos (Symbol 8)
Combined Single Limit (Each Accident) - \$1,000,000
- 3. Non-Owned Autos (Symbol 9)
Combined Single Limit (Each Accident) - \$1,000,000

9.6.4 Professional Liability/Errors & Omissions Insurance, when applicable, with a limit of liability no less than \$1,000,000 per wrongful act. This coverage shall be maintained for a period of no less than two (2) years after final payment of the contract.

9.6.5 Sexual Abuse may not be excluded from any policy.

9.7 REQUIRED ENDORSEMENTS



- 9.7.1 The City of Pembroke Pines shall be named as an Additional Insured on each of the General Liability policies required herein
 - 9.7.2 Waiver of all Rights of Subrogation against the CITY
 - 9.7.3 30 Day Notice of Cancellation or Non-Renewal to the CITY
 - 9.7.4 CONTRACTORS' policies shall be Primary & Non-Contributory
 - 9.7.5 All policies shall contain a "severability of interest" or "cross liability" liability clause without obligation for premium payment of the CITY
 - 9.7.6 The City of Pembroke Pines shall be named as a Loss Payee on all Property and/or Inland Marine Policies as their interest may appear.
- 9.8 CONTRACTOR shall name the CITY, as an additional insured on each of the General Liability policies required herein and shall hold the CITY, its agents, officers and employees harmless on account of claims for damages to persons, property or premises arising out of the services provided hereunder.
- 9.9 Any insurance required of the CONTRACTOR pursuant to this Agreement must also be required by any subcontractor in the same limits and with all requirements as provided herein, including naming the CITY as an additional insured, in any work that is subcontracted unless such subcontractor is covered by the protection afforded by the CONTRACTOR and provided proof of such coverage is provided to CITY. The CONTRACTOR and any subcontractors shall maintain such policies during the term of this Agreement.
- 9.10 The City reserves the right to require any other additional types of insurance coverage and/or higher limits of liability it deems necessary based on the nature of work being performed under this Contract.

ARTICLE 10

NON-DISCRIMINATION & EQUAL OPPORTUNITY EMPLOYMENT

10.1 During the performance of the Agreement, neither CONTRACTOR nor its subcontractors shall discriminate against any employee or applicant for employment because of race, religion, color, gender, national origin, sex, age, marital status, political affiliation, familial status, sexual orientation, or disability if qualified. CONTRACTOR will take affirmative action to ensure that employees are treated during employment, without regard to their race, religion, color, gender, national origin, sex, age, marital status, political affiliation, familial status, sexual orientation, or disability if qualified. Such actions must include, but not be limited to, the following: employment, promotion; demotion or transfer; recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. CONTRACTOR shall agree to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause. CONTRACTOR further agrees that he/she/it will ensure that subcontractors, if any, will be made aware of and will comply with this nondiscrimination clause.

ARTICLE 11



INDEPENDENT CONTRACTOR

11.1 This Agreement does not create an employee/employer relationship between the parties. It is the intent of the parties that the CONTRACTOR is an independent contractor under this Agreement and not the CITY's employee for all purposes, including but not limited to, the application of the Fair Labor Standards Act minimum wage and overtime payments, Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the State Workers' Compensation Act, and the State unemployment insurance law. The CONTRACTOR shall retain sole and absolute discretion in the judgment of the manner and means of carrying out CONTRACTOR's activities and responsibilities hereunder provided, further that administrative procedures applicable to services rendered under this Agreement shall be those of CONTRACTOR, which policies of CONTRACTOR shall not conflict with CITY, State, H.U.D., or United States policies, rules or regulations relating to the use of CONTRACTOR's Funds provided for herein. The CONTRACTOR agrees that it is a separate and independent enterprise from the CITY, that it has full opportunity to find other business, that it has made its own investment in its business, and that it will utilize a high level of skill necessary to perform the work. This Agreement shall not be construed as creating any joint employment relationship between the CONTRACTOR and the CITY and the CITY will not be liable for any obligation incurred by CONTRACTOR, including but not limited to unpaid minimum wages and/or overtime premiums.

ARTICLE 12 TERMINATION

12.1 *Termination for Convenience:* This Agreement may be terminated by CITY for convenience, upon «**Termination for Convenience**» of written notice by the terminating party to the other party for such termination in which event CONTRACTOR shall be paid its compensation for services performed to termination date, including services reasonably related to termination. In the event that CONTRACTOR abandons this Agreement or causes it to be terminated, CONTRACTOR shall indemnify CITY against loss pertaining to this termination.

12.2 *Default by CONTRACTOR:* In addition to all other remedies available to CITY, this Agreement shall be subject to cancellation by CITY for cause, should CONTRACTOR neglect or fail to perform or observe any of the terms, provisions, conditions, or requirements herein contained, if such neglect or failure shall continue for a period of thirty (30) days after receipt by CONTRACTOR of written notice of such neglect or failure.

ARTICLE 13 UNCONTROLLABLE FORCES

13.1 Neither CITY nor CONTRACTOR shall be considered to be in default of this Agreement if delays in or failure of performance shall be due to Uncontrollable Forces, the effect of which, by the exercise of reasonable diligence, the non-performing party could not avoid. The term "Uncontrollable Forces" shall mean any event which results in the prevention or delay of performance by a party of its obligations under this Agreement and which is beyond the reasonable control of the nonperforming party. It includes, but is not limited to fire, flood, earthquakes, storms, lightning, epidemic, war, riot, civil disturbance, sabotage, and governmental actions.



13.2 Neither party shall, however, be excused from performance if nonperformance is due to forces, which are preventable, removable, or remediable, and which the nonperforming party could have, with the exercise of reasonable diligence, prevented, removed, or remedied with reasonable dispatch. The nonperforming party shall, within a reasonable time of being prevented or delayed from performance by an uncontrollable force, give written notice to the other party describing the circumstances and uncontrollable forces preventing continued performance of the obligations of this Agreement.

ARTICLE 14
AGREEMENT SUBJECT TO FUNDING

14.1 This agreement shall remain in full force and effect only as long as the expenditures provided for in the Agreement have been appropriated by the City Commission of the City of Pembroke Pines in the annual budget for each fiscal year of this Agreement, and is subject to termination based on lack of funding.

ARTICLE 15
VENUE

15.1 This Agreement shall be governed by the laws of the State of Florida as now and hereafter in force. The venue for actions arising out of this agreement shall be in Broward County, Florida.

ARTICLE 16
SIGNATORY AUTHORITY

16.1 CONTRACTOR shall provide CITY with copies of requisite documentation evidencing that the signator for CONTRACTOR has the authority to enter into this Agreement.

ARTICLE 17
MERGER; AMENDMENT

17.1 This Agreement constitutes the entire Agreement between CONTRACTOR and CITY, and negotiations and oral understandings between the parties are merged herein. This Agreement can be supplemented or amended only by a written document executed by both CONTRACTOR and CITY with the same formality and equal dignity herewith.

ARTICLE 18
DEFAULT OF CONTRACT & REMEDIES

18.1.1 **Damages.** CITY reserves the right to recover any ascertainable actual damages incurred as a result of the failure of CONTRACTOR to perform in accordance with the requirements of this Agreement, or for losses sustained by CITY resultant from CONTRACTOR's failure to perform in accordance with the requirements of this Agreement.

18.1.2 **Liquidated Damages.** As a breach of the service provided by this Agreement would cause serious and substantial damage to CITY Property, and the nature of this Agreement would render it impracticable or extremely difficult to fix the actual damage sustained by CITY by such



breach, it is agreed that, in case of breach of service wherein CONTRACTOR fails to maintain the Property, leaving the said property in disrepair, CITY may elect to collect liquidated damages for each such breach, and CONTRACTOR will pay CITY as liquidated damages, and not as penalty, «**Liquidated Damages Per Day Written**» («**Liquidated Damages Per Day Numerical**») for every day of such malfunction. This sum is the agreed upon amount by which CITY will be damaged by the breach of such service. An election to seek such remedies shall not be construed as a waiver of any legal remedies CITY may have as to any subsequent breach of service under this Agreement.

18.1.3 **Correction of Work.** If, in the judgment of CITY, work provided by CONTRACTOR does not conform to the requirements of this Agreement, or if the work exhibits poor workmanship, CITY reserves the right to require that CONTRACTOR correct all deficiencies in the work to bring the work into conformance without additional cost to CITY, and / or replace any personnel who fail to perform in accordance with the requirements of this Agreement. CITY shall be the sole judge of non-conformance and the quality of workmanship.

18.2 **Default of Contract.** The occurrence of any one or more of the following events shall constitute a default and breach of this Agreement by CONTRACTOR:

18.2.1. The abandonment of the Property by CONTRACTOR for a period of more than seven (7) business days.

18.2.2 The abandonment, unnecessary delay, refusal of, or failure to comply with any of the terms of this Agreement or neglect, or refusal to comply with the instructions of the Public Services Director relative thereto.

18.2.3. The failure by CONTRACTOR to observe or perform any of the terms, covenants, or conditions of this Agreement to be observed or performed by CONTRACTOR, where such failure shall continue for a period of seven (7) days after written notice thereof by CITY to CONTRACTOR; provided, however, that if the nature of CONTRACTOR's default is such that more than seven (7) days are reasonably required for its cure, then CONTRACTOR shall not be deemed to be in default if CONTRACTOR commences such cure within said seven (7) day period and thereafter diligently prosecutes such cure to completion.

18.2.4. The assignment and/or transfer of this Agreement or execution or attachment thereon by CONTRACTOR or any other party in a manner not expressly permitted hereunder.

18.2.5. The making by CONTRACTOR of any general assignment or general arrangement for the benefit of creditors, or the filing by or against CONTRACTOR of a petition to have CONTRACTOR adjudged a bankruptcy, or a petition for reorganization or arrangement under any law relating to bankruptcy (unless, in the case of a petition filed against CONTRACTOR, the same is dismissed within sixty (60) days); or the appointment of a trustee or a receiver to take possession of substantially all of CONTRACTOR's assets, or for CONTRACTOR's interest in this Agreement, where possession is not restored to CONTRACTOR within thirty (30) days; for attachment, execution or other judicial seizure of substantially all of CONTRACTOR's assets, or for CONTRACTOR's interest in this Agreement, where such seizure is not discharged within thirty (30) days.



18.3 **Remedies in Default.** In case of default by CONTRACTOR, CITY shall notify CONTRACTOR, in writing, of such abandonment, delay, refusal, failure, neglect, or default and direct him to comply with all provisions of the Agreement. If the abandonment, delay, refusal, failure, neglect or default is not cured within seven (7) days of when notice was sent by CITY, CITY may declare a default of the Agreement and notify CONTRACTOR of such declaration of default and terminate the Agreement.

18.3.1. Upon such declaration of default, all payments remaining due CONTRACTOR at the time of default, less all sums due CITY for damages suffered, or expenses incurred by reason of default, shall be due and payable to CITY.

18.3.2. CITY may complete the Agreement, or any part thereof, either by day labor or re-letting a contract for the same, and procure the equipment and the facilities necessary for the completion of the Agreement, and charge the cost of same to CONTRACTOR and/or the Surety together with the costs incident thereto to such default.

18.3.3. In the event CITY completes the Agreement at a lesser cost than would have been payable to CONTRACTOR under this Agreement, if the same had been fulfilled by CONTRACTOR, CITY shall retain such differences. Should such cost to CITY be greater, CONTRACTOR shall pay the amount of such excess to the CITY.

18.3.4 Notwithstanding the other provisions in this Section, CITY reserves the right to terminate the Agreement at any time, whenever the service provided by CONTRACTOR fails to meet reasonable standards of the trade after CITY gives written notice to the CONTRACTOR of the deficiencies as set forth in the written notice within fourteen calendar (14) days of the receipt by CONTRACTOR of such notice from CITY.

ARTICLE 19 **BANKRUPTCY**

19.1 It is agreed that if CONTRACTOR is adjudged bankrupt, either voluntarily or involuntarily, then this Agreement shall terminate effective on the date and at the time the bankruptcy petition is filed.

ARTICLE 20 **DISPUTE RESOLUTION**

20.1 **Arbitration.** In addition to any other remedy provided hereunder, CITY, at its option, may use arbitration to resolve any controversy or claim arising out of or relating to this Agreement if arbitration is elected by CITY. Any controversy or claim arising out of or relating to this Agreement, or breach thereof, may be settled by arbitration in accordance with the rules of the American Arbitration Association and judgment upon the award rendered by the arbitrators may be entered into by any court having jurisdiction thereof. In the event arbitration is elected by CITY, such controversy



or claim shall be submitted to one arbitrator selected from the National Panel of The American Arbitration Association.

20.2 Operations During Dispute.

20.2.1 In the event that a dispute, if any, arises between CITY and CONTRACTOR relating to this Agreement, performance or compensation hereunder, CONTRACTOR shall continue to render service in full compliance with all terms and conditions of this Agreement as interpreted by CITY regardless of such dispute.

20.2.2 CONTRACTOR expressly recognizes the paramount right and duty of CITY to provide adequate maintenance of CITY's Property, and further agrees, in consideration for the execution of this Agreement, that in the event of such a dispute, if any, it will not seek injunctive relief in any court, but will negotiate with CITY for an adjustment on the matter or matters in dispute and, upon failure of said negotiations to resolve the dispute, may present the matter to a court of competent jurisdiction in an appropriate suit therefore instituted by it or by CITY.

ARTICLE 21
PUBLIC RECORDS

21.1 The City of Pembroke Pines is public agency subject to Chapter 119, Florida Statutes. The CONTRACTOR shall comply with Florida's Public Records Law. Specifically, the CONTRACTOR shall:

21.1.1 Keep and maintain public records required by the CITY to perform the service;

21.1.2 Upon request from the CITY's custodian of public records, provide the CITY with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119, Fla. Stat., or as otherwise provided by law;

21.1.3 Ensure that public records that are exempt or that are confidential and exempt from public record disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and, following completion of the contract, CONTRACTOR shall destroy all copies of such confidential and exempt records remaining in its possession after the CONTRACTOR transfers the records in its possession to the CITY; and

21.1.4 Upon completion of the contract, CONTRACTOR shall transfer to the CITY, at no cost to the CITY, all public records in CONTRACTOR's possession. All records stored electronically by the CONTRACTOR must be provided to the CITY, upon request from the CITY's custodian of public records, in a format that is compatible with the information technology systems of the CITY.



21.2 The failure of Contractor to comply with the provisions set forth in this Article shall constitute a Default and Breach of this Agreement and the CITY shall enforce the Default in accordance with the provisions set forth in **Article 18**.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT

**CITY CLERK
601 CITY CENTER WAY, 4th FLOOR
PEMBROKE PINES, FL 33025
(954) 450-1050
mgraham@ppines.com**

**ARTICLE 22
MISCELLANEOUS**

22.1 **Ownership of Documents.** Reports, surveys, studies, and other data provided in connection with this Agreement are and shall remain the property of CITY, whether or not the project for which they are made is completed.

22.2 **Legal Representation.** It is acknowledged that each party to this agreement had the opportunity to be represented by counsel in the preparation of this Agreement, and accordingly, the rule that a contract shall be interpreted strictly against the party preparing same shall not apply herein due to the joint contributions of both parties.

22.3 **Records.** CONTRACTOR shall keep such records and accounts and require any and all subcontractors to keep records and accounts as may be necessary in order to record complete and correct entries as to personnel hours charged to this engagement, and any expenses for which CONTRACTOR expects to be reimbursed. Such books and records will be available at all reasonable times for examination and audit by CITY and shall be kept for a period of ten (10) years after the completion of all work to be performed pursuant to this Agreement. Incomplete or incorrect entries in such books and records will be grounds for disallowance by CITY of any fees or expenses based upon such entries.

22.4 **Assignments; Amendments.** This Agreement, and any interests herein, shall not be assigned, transferred or otherwise encumbered, under any circumstances, by CONTRACTOR without the prior written consent of CITY. For purposes of this Agreement, any change of ownership of CONTRACTOR shall constitute an assignment which requires CITY approval. However, this Agreement shall run to the benefit of CITY and its successors and assigns.



22.5 **No Contingent Fees.** CONTRACTOR warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for CONTRACTOR to solicit or secure this Agreement, and that it has not paid or agreed to pay any person, company, corporation, individual or firm, other than a bona fide employee working solely for CONTRACTOR any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. For the breach or violation of this provision, CITY shall have the right to terminate the Agreement without liability at its discretion, to deduct from the contract price, or otherwise recover the full amount of such fee, commission, percentage, gift or consideration.

22.6 **Notice.** Whenever any party desires to give notice unto any other party, it must be given by written notice, sent by certified United States mail, with return receipt requested, addressed to the party for whom it is intended and the remaining party, at the places last specified, and the places for giving of notice shall remain such until they shall have been changed by written notice in compliance with the provisions of this section. For the present, CONTRACTOR and CITY designate the following as the respective places for giving of notice:

CITY Charles F. Dodge, City Manager
City of Pembroke Pines
601 City Center Way
Pembroke Pines, Florida 33025
Telephone No. (954) 450-1040

Copy To: Samuel S. Goren, City Attorney
Goren, Cherof, Doody & Ezrol, P.A.
3099 East Commercial Boulevard, Suite 200
Fort Lauderdale, Florida 33308
Telephone No. (954) 771-4500
Facsimile No. (954) 771-4923

Contractor «Vendor_Contact_Title»
«Vendor_Name»
«Vendor_Address_Line_1»
«Vendor_Address_Line_2»
E-mail: «Vendor_Email»
Telephone No: «Vendor_Phone_Number»
Cell phone No: «Vendor_Cell_Number»
Facsimile No: «Vendor_Fax_Number»

22.7 **Binding Authority.** Each person signing this Agreement on behalf of either party individually warrants that he or she has full legal power to execute this Agreement on behalf of the party for whom he or she is signing, and to bind and obligate such party with respect to all provisions contained in this Agreement.

22.8 **Headings.** Headings herein are for the convenience of reference only and shall not be considered in any interpretation of this Agreement.



22.9 **Exhibits.** Each Exhibit referred to in this Agreement forms an essential part of this Agreement. The exhibits if not physically attached should be treated as part of this Agreement and are incorporated herein by reference.

22.10 **Severability.** If any provision of this Agreement or application thereof to any person or situation shall to any extent, be held invalid or unenforceable, the remainder of this Agreement, and the application of such provisions to persons or situations other than those as to which it shall have been held invalid or unenforceable, shall not be affected thereby, and shall continue in full force and effect, and be enforced to the fullest extent permitted by law.

22.11 **Extent of Agreement.** This Agreement represents the entire and integrated agreement between CITY and CONTRACTOR and supersedes all prior negotiations, representations or agreements, either written or oral.

22.12 **Waiver.** Failure of CITY to insist upon strict performance of any provision or condition of this Agreement, or to execute any right therein contained, shall not be constructed as a waiver or relinquishment for the future of any such provision, condition, or right, but the same shall remain in full force and effect.

22.13 **Attorney's Fees.** In the event that either party brings suit for enforcement of this Agreement, each party shall bear its own attorney's fees and court costs, except as otherwise provided under the indemnification provisions set forth herein above.

22.14 **Protection of City Property.** At all times during the performance of this Agreement, CONTRACTOR shall protect CITY's property from all damage whatsoever on account of the work being carried on under this Agreement.

22.15 **Counterparts and Execution.** This Agreement may be executed in multiple originals or counterparts, each of which shall be deemed to be an original and together shall constitute one and the same agreement. Execution and delivery of this Agreement by the Parties shall be legally binding, valid and effective upon delivery of the executed documents to the other party through facsimile transmission, email, or other electronic delivery.

22.16 **Scrutinized Companies.** CONTRACTOR, its principals or owners, certify that they are not listed on the Scrutinized Companies that Boycott Israel List, Scrutinized Companies with Activities in Sudan List, Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, or is engaged in business operations with Syria. In accordance with Florida Statute 287.135, as amended, a company is ineligible to, and may not, bid on, submit a proposal for, or enter into or renew a contract with any agency or local governmental entity for goods or services if:

22.16.1 Any amount of, at the time bidding on, submitting a proposal for, or entering into or renewing such contract, the company is on the Scrutinized Companies that Boycott Israel List, created pursuant to s. 215.4725 or is engaged in a boycott of Israel; or



22.16.2 One million dollars or more if, at the time of bidding on, submitting a proposal for, or entering into or renewing such contract, the company:

22.16.2.1 Is on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to s. 215.473; or

22.16.2.2 Is engaged in business operations in Syria.

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HAS BEEN INTENTIONALLY LEFT BLANK



IN WITNESS OF THE FOREGOING, the parties have set their hands and seals the day and year first written above.

CITY:

CITY OF PEMBROKE PINES, FLORIDA

ATTEST:

MARLENE D. GRAHAM, CITY CLERK

By: _____
CHARLES F. DODGE, CITY MANAGER

APPROVED AS TO FORM:

OFFICE OF THE CITY ATTORNEY

CONTRACTOR:

«Vendor_Name_Upper_Case»

By: _____
Name: _____
Title: _____

STATE OF _____)
COUNTY OF _____)

BEFORE ME, an officer duly authorized by law to administer oaths and take acknowledgments, personally appeared _____ as _____ of «Vendor_Name», a company authorized to conduct business in the State of Florida, and acknowledged execution of the foregoing Agreement as the proper official of «Vendor_Name» for the use and purposes mentioned in it and affixed the official seal of the corporation, and that the instrument is the act and deed of that corporation.

IN WITNESS OF THE FOREGOING, I have set my hand and official seal at in the State and County aforesaid on this _____ day of _____, «Contract_Signature_Year».

NOTARY PUBLIC

(Name of Notary Typed, Printed or Stamped)

REFERENCES FORM

Provide specific examples of similar contracts. References should be capable of explaining and confirming your firm's capacity to successfully complete the scope of work outlined herein. **This form should be duplicated for each reference and any additional information that would be helpful can be attached.**

Reference Contact Information:

Name of Firm, City, County or Agency:

Address:

City/State/Zip:

Contact Name:

Title:

E-Mail Address:

Telephone:

Fax:

Project Information:

Name of Contractor Performing the work:

Name and location of the project:

Nature of the firm's responsibility on the project:

Project duration:

Completion (Anticipated) Date:

Size of project:

Cost of project:

Work for which staff was responsible:

Contract Type:

The results/deliverables of the project:

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Fax:

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Name and location of the project:

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City/State/Zip:

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Title:

E-Mail Address:

Telephone:

Fax:

Project Information:

Name of Contractor Performing the work:

Name and location of the project:

Nature of the firm's responsibility on the project:

Project duration:

Completion (Anticipated) Date:

Size of project:

Cost of project:

Work for which staff was responsible:

Contract Type:

The results/deliverables of the project:



Mandatory Pre-Bid/Site Visit Confirmation Form

The scanned form, signed by both the Contractor and City Representatives must be uploaded in order for the bid to be considered complete.

_____, who is a representative of
(Printed name of Contractor’s representative)

_____ PERSONALLY came and appeared
(Contractor’s Company)

before me and affirms that they have completed the mandatory pre-bid/site visit on this the

_____ day of _____, 20_____ as required by:

Solicitation #: _____

Solicitation Title: _____

(Contractor Representative’s Printed Name)

(City Representative’s Printed Name)

(Contractor Representative’s Signature)

(City Representative’s Signature)

(Contractor’s Company)

(City Representative’s Department)

(Contractor’s Phone Number)

(City Representative’s Phone Number)

(Date)

(Date)

The City requires all questions to be submitted via the BidSync website. Such request must be received by the “Question Due Date,” questions received after the “Question Due Date” shall not be answered. Interpretations or clarifications in response to such questions will be issued via BidSync. The issuance of a response via BidSync is considered an Addendum and shall be the only official method whereby such an interpretation or clarification will be made.

SECTION 16010

BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 RELATED SECTIONS

- A. Requirements specified within this section apply to all sections in Division 16, ELECTRICAL. Work specified herein shall be performed as if specified in the individual sections.

1.02 ELECTRICAL CONTRACTOR QUALIFICATIONS

- A. The electrical contractor shall meet or exceed the criteria described below:
1. The electrical contractor shall be licensed in the State of Florida.
 2. The electrical contractor shall have, in their employ, the following full-time employees that will be assigned to perform the electrical work of this contract:
 - a) A minimum of (1) Licensed Master Electrician who is overall responsible for the supervision of personnel performing the construction, installation startup and testing of all electrical related facilities and systems.
 - b) A minimum of (1) Licensed Journeyman Electrician responsible for the daily construction activities and guidance of the electrical contractor's on-site employees. The Licensed Journeyman's primary assignment will be the construction of the electrical facilities of this project until project completion.
 3. The electrical contractor shall not be involved in any current or pending litigation which may have a material negative impact on the ability to complete the project. The electrical contractor shall provide a statement advising all current or pending litigations.

1.03 DESIGN REQUIREMENTS

- A. All electronic boards as part of electrical equipment shall meet the atmospheric conditions of the space the equipment is installed in. All electronic boards which are not installed in a conditioned environment shall be fungus-resistant.
- B. All electrical equipment shall be rated for the conditions the equipment is installed in.

1.04 STANDARDS, CODES, PERMITS, AND REGULATIONS

- A. Perform all work; furnish and install all materials and equipment in full accordance with the latest applicable rules, regulations, requirements, and specifications of the following:
1. Local Laws and Ordinances.

2. State and Federal Laws.
 3. National Electrical Code (NEC).
 4. State Fire Marshal.
 5. Underwriters' Laboratories (UL).
 6. National Electrical Safety Code (NESC).
 7. American National Standards Institute (ANSI).
 8. National Electrical Manufacturer's Association (NEMA).
 9. National Electrical Contractor's Association (NECA) Standard of Installation.
 10. Institute of Electrical and Electronics Engineers (IEEE).
 11. Insulated Cable Engineers Association (ICEA).
 12. Occupational Safety and Health Act (OSHA).
 13. National Electrical Testing Association (NETA).
 14. American Society for Testing and Materials (ASTM).
 15. Florida Building Code, including Broward County amendments.
- B. Conflicts, if any, which may exist between the above items, will be resolved at the discretion of the Engineer.
- C. Wherever the requirements of the Specifications or Drawings exceed those of the above items, the requirements of the Specifications or Drawings govern. Code compliance is mandatory. Construe nothing in the Contract Documents as permitting work not in compliance with these codes.
- D. Obtain all permits and pay all fees required by any governmental agency having jurisdiction over the work. Arrange all inspections required by these agencies. On completion of the work, furnish satisfactory evidence to the Engineer that the work is acceptable to the regulatory authorities having jurisdiction.

1.05 ELECTRICAL COORDINATION

A. Work Provided Under this Contract:

1. Provide and install the complete electrical power distribution systems described in the drawings and specifications, complete in place.
2. Provide all miscellaneous electrical including switches, terminations, fittings, wiring, conduit, junction boxes, etc. not expressly described or specified in the

drawings and specifications but obviously necessary, for a complete working system in place.

3. Contractor shall coordinate with owner, engineer and blower unit manufacturer for scheduled startup of both backup blower units and provide one (1) onsite eight (8) hour day of startup assistance.
4. The Contractor shall provide a detailed proposed sequence of construction as a submittal and get approval in writing, by the Owner and Engineer. Proposed sequence of construction shall also include duration of each shutdown, temporary equipment locations, and duration of each phase, if any. Incorporate all comments by Engineer and Owner into the sequence of construction until the proposed sequence of construction is approved. If temporary power is required, the Contractor shall provide and install all necessary temporary power distribution equipment, wires, raceway supports, etc. for a complete and working temporary power system in place. All cost associated with temporary power system shall be included in the bid price.

B. Temporary Power:

1. Provide temporary power for all office trailers and for all construction areas. Coordinate with local power and telephone utility for temporary construction power and telephone service during construction.

1.06 SUBMITTALS

A. Quality Control Submittals:

1. Voltage Field Test Results.
2. Voltage Balance Report.
3. Equipment Line Current Report.
4. Factory test certification and reports for all major electrical equipment.
5. Site test certification and reports as specified in other Division 16, ELECTRICAL sections.
6. As part of the electrical submittal, the contractor shall provide a minimum of 1/2"=1'-0" scaled layout of the electrical equipment in the electrical room or major electrical equipment in a mechanical room showing sizes of all equipment and their spatial relationship. Non-electrical equipment shall be approved before finalizing the electrical layout in mechanical rooms.

B. The following information shall be provided for all electrical equipment:

1. A copy of each specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check-marks (√)

shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph. The remaining portions of the paragraph not underlined shall signify compliance on the part of the Contractor with the specifications. The submittal shall be accompanied by a detailed, written justification for each deviation.

- C. Electrical equipment submittals shall be made by specification section. Submit one package per specification section and do not group multiple specification sections under one submittal package.
- D. Provide complete conduit and equipment layouts: a scaled plan layout of the electrical room(s) showing spatial relationships of all equipment as well as the overall size of the room. Minimum scale shall be 1/2"=1'-0".
- E. Provide a conduit plan for major power, instrumentation and control conduits, both interior and exterior, showing routing, size and stub up locations for buried or in slab conduits.

1.07 ENVIRONMENTAL CONDITIONS

- A. All chemical rooms and areas shall be designated as corrosive.
- B. All indoor chemical and process equipment areas shall be considered wet locations.
- C. Electrical equipment in rooms or areas designated as Classified by NFPA 70 (national electrical code) as Division 1 or Division 2 shall meet all requirements set forth for that classification as described in NEC article 500.

1.08 INSPECTION OF THE SITE AND EXISTING CONDITIONS

- A. The Electrical Drawings were developed from past record drawings and information supplied by the Owner. Verify all scaled dimensions prior to submitting bids.
- B. Before submitting a bid, visit the site and determine conditions at the site and at all existing structures in order to become familiar with all existing conditions and electrical system which will, in any way or manner, affect the work required under this Contract. No subsequent increase in Contract cost will be allowed for additional work required because of the Contractor's failure to fulfill this requirement.
- C. Submit a request for shut down to the Owner for 5 working days in advance and for review and approval. Carry out any work involving the shutdown of the existing services to any piece of equipment now functioning in existing areas at such time as to provide the least amount of inconvenience to the Owner. Do such work when directed by the Engineer.
- D. After award of Contract, locate all existing underground utilities at each area of construction activity. Protect all existing underground utilities during construction. Pay for all required repairs without increase in Contract cost, should damage to underground utilities occur during construction.

1.09 RESPONSIBILITY

- A. The Contractor shall be responsible for:
 - 1. Complete systems in accordance with the intent of these Contract Documents.
 - 2. Coordinating the details of facility equipment and construction for all Specification Divisions which affect the work covered under Division 16, ELECTRICAL.
 - 3. Furnishing and installing all incidental items not actually shown or specified, but which are required by good practice to provide complete functional systems.

1.10 INTENT OF DRAWINGS

- A. Electrical plan Drawings show only general location of equipment, devices, and raceway, unless specifically dimensioned. The Contractor shall be responsible for the proper routing of raceway, subject to the approval of the Engineer.
- B. All electrical equipment sizes and characteristics have been based on manufacturer Square D. If the Contractor chooses to and is allowed to substitute, the Contractor shall be responsible for fitting all the equipment in the available space as shown on the Drawings.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Provide materials and equipment listed by UL wherever standards have been established by that agency.
- B. Equipment Finish:
 - 1. Provide manufacturers' standard finish and color, except where specific color is indicated.
 - 2. If manufacturer has no standard color, provide equipment with ANSI No. 61, light gray color.

PART 3 - EXECUTION

3.01 GENERAL

- A. Electrical Drawings show general locations of equipment, devices, and raceway, unless specifically dimensioned.
- B. Install work in accordance with NECA Standard of Installation, unless otherwise specified.

3.02 LOAD BALANCE

- A. Drawings and Specifications indicate circuiting to electrical loads and distribution equipment.
- B. Balance electrical load between phases as nearly as possible on switchboards, panel boards, motor control centers, and other equipment where balancing is required.
- C. When loads must be reconnected to different circuits to balance phase loads, maintain accurate record of changes made, and provide circuit directory that lists final circuit arrangement.

3.03 CHECKOUT AND STARTUP

- A. Voltage Field Test:
 - 1. Check voltage at point of termination of power company supply system to project when installation is essentially complete and is in operation.
 - 2. Check voltage amplitude and balance between phases for loaded and unloaded conditions.
 - a. Submit Voltage Field Test Report within 5 days of test.
- B. Equipment Line Current Tests:
 - 1. Check line current in each phase for each piece of equipment.
 - 2. Make line current check after equipment start up and is in service.
 - 3. If any phase current for any piece of equipment is above rated nameplate current, prepare Equipment Line Phase Current Report that identifies cause of problem and corrective action taken.
- C. Startup:
 - 1. Demonstrate satisfactory operation of all 480V electrical equipment. Participate with other trades in all startup activities.

- END OF SECTION -

SECTION 16050

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.01 REFERENCES

- A. The following is a list of standards that may be referenced in this section:
1. American National Standards Institute (ANSI):
 - a. C62.11, Standard for Metal-Oxide Surge Arrestors for AC Circuits.
 - b. Z55.1, Gray Finishes for Industrial Apparatus and Equipment.
 - c. C57, Standard General Requirements for Dry Type Distribution and Power Transformers
 2. American Society for Testing and Materials (ASTM):
 - a. A167, Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip.
 - b. A240, Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels.
 - c. A570, Standard Specification for Steel, Sheet, and Strip, Carbon, Hot-Rolled, Structural Quality.
 3. Federal Specifications (FS):
 - a. W-C-596, Connector, Receptacle, Electrical.
 - b. W-S-896E, Switches, Toggle, Flush Mounted.
 4. National Electrical Contractor's Association, Inc. (NECA): 5055, Standard of Installation.
 5. National Electrical Manufacturers Association (NEMA):
 - a. 250, Enclosures for Electrical Equipment (1000 Volts Maximum).
 - b. AB 1, Molded Case Circuit Breakers and Molded Case Switches.
 - c. ICS 2, Industrial Control Devices, Controllers, and Assemblies.
 - d. KS 1, Enclosed Switches.
 - e. LA I, Surge Arrestors.
 - f. PB 1, Panelboards
 - g. ST 20, Dry-Type Transformers for General Applications.
 - h. WD I, General Requirements for Wiring Devices.
 - i. NEMA Standard TP-1-2002.

6. National Fire Protection Association (NFPA): 70, National Electrical Code (NEC).
7. Underwriters Laboratories, Inc. (UL):
 - a. 67, Standard for Panelboards.
 - b. 98, Standard for Enclosed and Dead-Front Switches.
 - c. 198C, Standard for Safety High-Interrupting-Capacity Fuses, Current-Limiting Types.
 - d. 198E, Standard for Class Q Fuses.
 - e. 486E, Standard for Equipment Wiring Terminals.
 - f. 489, Standard for Molded Case Circuit Breakers and Circuit Breaker Enclosures.
 - g. 508, Standard for Industrial Control Equipment.
 - h. 810, Standard for Capacitors.
 - i. 943, Standard for Ground-Fault Circuit Interrupters.
 - j. 1059, Standard for Terminal Blocks.
 - k. 1561, Standard for Dry-Type General-Purpose and Power Transformers.

1.02 SUBMITTALS

A. Shop Drawings:

1. Device boxes for use in hazardous areas.
2. Junction and pull boxes used at, or below, grade.
3. Hardware.
4. Terminal junction boxes.
5. Panelboards and circuit breaker data.
6. Fuses.
7. Contactors.
8. Transformers.
9. All other miscellaneous material part of this project.
10. Wire pulling compound.

B. Quality Control Submittals:

1. Test Report: Sound test certification for dry type power transformers (0 to 600-volt, primary).

1.03 QUALITY ASSURANCE

- A. UL Compliance: Materials manufactured within scope of Underwriters Laboratories shall conform to UL Standards and have an applied UL listing mark.
- B. Hazardous Areas: Materials and devices shall be specifically approved for hazardous areas of the class, division, and group shown and of a construction that will ensure safe performance when properly used and maintained.

PART 2 – PRODUCTS

2.01 OUTLET AND DEVICE BOXES

- A. Sheet Steel: One-piece drawn type, zinc- or cadmium-plated.
- B. Cast Metal:
 - 1. Box: Cast ferrous metal.
 - 2. Cover: Gasketed, weatherproof, cast ferrous metal, with stainless steel screws.
 - 3. Hubs: Threaded.
 - 4. Lugs (Cast Mounting) Manufacturer:
 - a. Crouse-Hinds; Type FS or FD.
 - b. Appleton; Type FS or FD.
- C. Cast Aluminum:
 - 1. Material:
 - a. Box: Cast, copper-free aluminum.
 - b. Cover: Gasketed, weatherproof, cast copper-free aluminum with stainless steel screws.
 - 2. Hubs: Threaded.
 - 3. Lugs: Cast mounting.
 - 4. Manufacturers:
 - a. Crouse-Hinds; Type FS-SA or FD-SA.
 - b. Appleton; Type FS or FD.

2.02 JUNCTION AND PULL BOXES

- A. Outlet Boxes Used as Junction or Pull Box: As specified under Article OUTLET AND DEVICE BOXES.
- B. Large Sheet Steel Box: NEMA 250, Type 1.
 - 1. Box: Code-gauge, galvanized steel.
 - 2. Cover: Full access, screw type.
 - 3. Machine Screws: Corrosion-resistant.
- C. Large Cast Metal Box: NEMA 250, Type 4.
 - 1. Box: Cast malleable iron, hot-dip galvanize finished, with drilled and tapped conduit entrances.
 - 2. Cover: Hinged with screws.
 - 3. Hardware and Machine Screws: ASTM A167, Type 316 stainless steel.
 - 4. Manufacturers, Surface Mounted Type:
 - a. Crouse-Hinds; Series W.
 - b. O.Z./Gedney; Series Y.
 - 5. Manufacturers, Recessed Type:
 - a. Crouse-Hinds; Type WJBF.
 - b. O.Z./Gedney; Series YR.
- D. Large Stainless Steel Box: NEMA 250, Type 4X.
 - 1. Box: 14-gauge, ASTM A240, Type 316 stainless steel.
 - 2. Cover: Hinged with screws.
 - 3. Hardware and Machine Screws: ASTM A167, Type 316 stainless steel.
 - 4. Manufacturers:
 - a. Hoffman Engineering Co.
 - b. Robroy Industries.
- E. Large Steel Box: NEMA 250, Type 4.
 - 1. Box: 12-gauge steel, with white enamel painted interior and gray primed exterior, over phosphated surfaces, with final ANSI Z55.1, No. 61 gray enamel on exterior surfaces.
 - 2. Cover: Hinged with screws.
 - 3. Hardware and Machine Screws: ASTM A167, Type 316 stainless steel.
 - 4. Manufacturers:
 - a. Hoffman Engineering Co.

b. Robroy Industries.

F. Large Nonmetallic Box:

1. NEMA 250, Type 4X.
2. Box: High-impact, fiberglass-reinforced polyester or engineered thermoplastic, with stability to high heat.
3. Cover: Hinged with screws.
4. Hardware and Machine Screws: ASTM A167, Type 316 stainless steel.
5. Conduit hubs and mounting lugs.
6. Manufacturers:
 - a. Crouse-Hinds; Type NJB.
 - b. Carlon; Series N, C, or H.
 - c. Robroy Industries.

2.03 SUPPORT AND FRAMING CHANNELS

A. Material:

1. ASTM A167, Type 316 stainless steel. Use 316 stainless steel rods, nuts and bolts to attach or anchor to the concrete slab or wall.

B. Finish:

1. ASTM A167, Type 316 stainless steel.

C. Inserts: Continuous.

D. Beam Clamps: Gray cast iron for non-corrosive areas and FRP (fiberglass) for corrosive/chemical areas.

E. Manufacturers:

1. B-Line.
2. Unistrut.
3. Or approved equal.

PART 3 - EXECUTION

3.01 GENERAL

- A. Install equipment in accordance with NECA 5055.

3.02 OUTLET AND DEVICE BOXES

- A. Install suitable for conditions encountered at each outlet or device in the wiring or raceway system, sized to meet NFPA 70 requirements.
- B. Size:
 - 1. Depth: Minimum 2 inches, unless otherwise required by structural conditions. Box extensions not permitted.
 - a. Hollow Masonry Construction: Install with sufficient depth such that conduit knockouts or hubs are in masonry void space.
 - 2. Ceiling Outlet: Minimum 4-inch octagonal sheet steel device box, unless otherwise required for installed fixture.
 - 3. Switch and Receptacle: Minimum 2-inch by 4-inch sheet steel device box.
- C. Locations:
 - 1. Drawing locations are approximate.
 - 2. To avoid interference with mechanical equipment or structural features, relocate outlets as directed by ENGINEER.
 - 3. Light Switch: Install on lock side of doors.
 - 4. Light Fixture: Install in symmetrical pattern according to room layout unless otherwise shown.
- D. Mounting Height:
 - 1. General:
 - a. Measured to centerline of box.
 - b. Where specified heights do not suit building construction or finish, mount as directed by ENGINEER.
 - 2. Light Switch: 48 inches above floor.
 - 3. Thermostat: 54 inches above floor.
 - 4. Telephone Outlet: 6 inches above counter tops or 15 inches above floor.
 - 5. Wall Mounted Telephone Outlet: 52 inches above floor.
 - 6. Convenience Receptacle:
 - a. General Interior Areas: 15 inches above floor.

- b. General Interior Areas (Counter Tops): Install device plate bottom or side flush with top of splash back, or 6 inches above countertops without splash back.
 - c. Industrial Areas, Workshops: 48 inches above floor.
 - d. Outdoor, All Areas: 24 inches above finished grade.
- 7. Special-Purpose Receptacle: 54 inches above floor or as shown.
- E. Install plumb and level.
- F. Flush Mounted:
 - 1. Install with concealed conduit.
 - 2. Install proper type extension rings or plaster covers to make edges of boxes flush with finished surface.
 - 3. Holes in surrounding surface shall be no larger than required to receive box.
- G. Support boxes independently of conduit by attachment to building structure or structural member.
- H. Install bar hangers in frame construction, or fasten boxes directly with wood screws on wood, bolts and expansion shields on concrete or brick, toggle bolts on hollow masonry units, and machine screws threaded into steelwork.
- I. Threaded studs driven in by powder charge and provided with lock washers and nuts are acceptable in lieu of expansion shields.
- J. Provide plaster rings where necessary.
- K. Boxes embedded in concrete or masonry need not be additionally supported.
- L. Install stainless steel mounting hardware in industrial areas.
- M. Boxes Supporting Fixtures: Provide means of attachment with adequate strength to support fixture.
- N. Open no more knockouts in sheet steel device boxes than are required; seal unused openings.
- O. Box Type (Steel Raceway System):
 - 1. Exterior Locations:
 - a. Exposed Raceways: Cast metal.
 - b. Concealed Raceways: Cast metal.

- c. Concrete Encased Raceways: Cast metal.
 - d. Class I, II, or III Hazardous Areas: Cast metal.
2. Interior Dry Locations:
- a. Exposed Rigid Conduit: Cast metal.
 - b. Exposed EMT: Sheet steel.
 - c. Concealed Raceways: Sheet steel.
 - d. Concrete Encased Raceways: Cast metal.
 - e. Lighting Circuits, Ceiling: Sheet steel.
 - f. Class I, II, or III Hazardous Areas: Cast metal.
3. Interior Wet Locations:
- a. Exposed Raceways: Cast metal.
 - b. Concealed Raceways: Cast metal.
 - c. Concrete Encased Raceways: Cast metal.
 - d. Lighting Circuits, Ceiling: Sheet steel.
 - f. Class I, II, or III Hazardous Areas: Cast metal.
4. Cast-In-Place Concrete Slabs: Sheet steel.
- P. Box Type (Rigid Aluminum Raceway System): Cast aluminum.

3.03 JUNCTION AND PULL BOXES

- A. Install where shown and where necessary to terminate, tap-off, or redirect multiple conduit runs.
- B. Install pull boxes where necessary in raceway system to facilitate conductor installation.
- C. Install in conduit runs at least every 150 feet or after the equivalent of three right-angle bends.
- D. Use outlet boxes as junction and pull boxes wherever possible and allowed by applicable codes.
- E. Installed boxes shall be accessible.

- F. Do not install on finished surfaces.
- G. Install plumb and level.
- H. Support boxes independently of conduit by attachment to building structure or structural member.
- I. Install bar hangers in frame construction, or fasten boxes directly with wood screws on wood, bolts and expansion shields on concrete or brick, toggle bolts on hollow masonry units, and machine screws or welded threaded studs on steelwork.
- J. Threaded studs driven in by powder charge and provided with lock washers and nuts are acceptable in lieu of expansion shields.
- K. Boxes embedded in concrete or masonry need not be additionally supported.
- L. At or Below Grade:
 - 1. Install boxes for below grade conduits flush with finished grade in locations outside of paved areas, roadways, or walkways.
 - 2. If adjacent structure is available, box may be mounted on structure surface just above finished grade in accessible but unobtrusive location.
 - 3. Obtain ENGINEER'S written acceptance prior to installation in paved areas, roadways, or walkways.
 - 4. Use boxes and covers suitable to support anticipated weights.
- M. Flush Mounted:
 - 1. Install with concealed conduit.
 - 2. Holes in surrounding surface shall be no larger than required to receive box.
 - 3. Make edges of boxes flush with final surface.
- N. Mounting Hardware:
 - 1. Non-corrosive Interior Areas: Galvanized.
 - 2. All Other Areas: Stainless steel.
- O. Location/Type:
 - 1. Finished, Indoor, Dry: NEMA 250, Type 1.
 - 2. Unfinished, Indoor, Dry: NEMA 250, Type 12.
 - 3. Unfinished, Indoor and Outdoor, Wet and Corrosive: NEMA 250, Type 4X.
 - 4. Unfinished, Indoor and Outdoor, Wet, Dust, or Oil: NEMA 250, Type 13.
 - 5. Unfinished, Indoor and Outdoor, Hazardous: NEMA 250, Type 7 and Type 9, where indicated.

6. Underground Conduit: Concrete Encased.
7. Corrosive Locations: Nonmetallic.
8. Receptacles: Install in accordance with manufacturer's instructions.

3.04 SUPPORT AND FRAMING CHANNEL

- A. Install where required for mounting and supporting electrical equipment and raceway systems.

END OF SECTION

SECTION 16110

RACEWAYS

PART 1 - GENERAL

1.01 REFERENCES

A. The following is a list of standards which may be referenced in this Section:

1. American Association of State Highway and Transportation Officials (AASHTO):
Division I, Standard Specifications for Highway Bridges, Fourteenth Edition.
2. American National Standards Institute (ANSI):
 - a. C80.1, Rigid Steel Conduit-Zinc Coated.
 - b. C80.3, Electrical Metallic Tubing-Zinc Coated.
 - c. CS0.5, Rigid Aluminum Conduit.
 - d. C80.6, Intermediate Metal Conduit (IMC)-Zinc Coated.
3. American Society for Testing and Materials (ASTM):
 - a. A123 EI, Standard Specification for Zinc-Coated (Galvanized) Coatings on Iron and Steel Products.
 - b. C857, Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures.
4. National Electrical Contractor's Association, Inc. (NECA): 5055, Standard of Installation.
5. National Electrical Manufacturers Association (NEMA):
 - a. RN 1, Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit.
 - b. TC 2, Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80).
 - c. TC 3, PVC Fittings for Use with Rigid PVC Conduit and Tubing.
 - d. TC 6, PVC and ABS Plastic Utilities Duct for Underground Installation.
 - e. VE 1, Metallic Cable Tray Systems.
6. National Fire Protection Association (NFPA): 70, National Electrical Code. (NEC)
7. Underwriters Laboratories, Inc. (UL):
 - a. 1, Standard for Safety Flexible Metal Conduit.
 - b. 6, Standard for Safety Rigid Metal Conduit.
 - c. 360, Standard for Safety Liquid-Tight Flexible Steel Conduit.
 - d. 514B, Standard for Safety Fittings for Conduit and Outlet Boxes.
 - e. 514C, Standard for Safety Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers.
 - f. 651, Standard for Safety Schedule 40 and 80 PVC Conduit.
 - g. 651A, Standard for Safety Type EB and Rigid PVC Conduit and HDPF Conduit.
 - h. 797, Standard for Safety Electrical Metallic Tubing.

- i. 870, Standard for Safety Wireways, Auxiliary Gutters, and Associated Fittings.
- j. 1242, Standard for Safety Intermediate Metal Conduit.
- k. 1660, Standard for Safety Liquid-Tight Flexible Nonmetallic Conduit.

1.02 SUBMITTALS

A. Shop Drawings:

- 1. Manufacturer's Literature:
 - a. Rigid Aluminum conduit.
 - b. Flexible metal, liquid-tight conduit.
 - c. Flexible, nonmetallic, liquid-tight conduit.
 - d. Conduit fittings.
 - e. Wireways.

1.03 UL COMPLIANCE

- A. Materials manufactured within scope of Underwriters Laboratories shall conform to UL Standards and have an applied UL listing mark.

PART2 - PRODUCTS

2.01 CONDUIT AND TUBING

A. Rigid Aluminum Conduit

- 1. Meets requirements of UL 514B
- 2. Type: Threaded, copper-free. Set screw fittings not permitted.

B. Flexible Metal, Liquid-Tight Conduit:

- 1. UL 360 listed for 105 degrees C insulated conductors.
- 2. Material: Galvanized steel, with an extruded PVC jacket.

C. Flexible, Nonmetallic, Liquid-Tight Conduit:

- 1. Material: PVC core with fused flexible PVC jacket.
- 2. UL 1660 listed for:
 - a. Dry Conditions: 80 degrees C insulated conductors.
 - b. Wet Conditions: 60 degrees C insulated conductors.
- 3. Manufacturers:
 - a. Carlon; Carflex or X-Flex.
 - b. T & B; Xtraflex LTC or EFC.

2.02 FITTINGS

A. Rigid Aluminum Conduit:

1. General:
 - a. Meet requirements of UL 514B.
 - b. Type: Threaded, galvanized. Set screw fittings not permitted.
2. Bushing:
 - a. Material: Cast Aluminum with integral insulated throat, rated for 150 degrees C.
 - b. Manufacturers:
 - 1) O.Z./Gedney; Type AB.
3. Grounding Bushing:
 - a. Material: Cast Aluminum with integral insulated throat rated for 150 degrees C, with solderless lugs.
 - b. Manufacturers:
 - 1) Appleton; Series GIB.
 - 2) O.Z. Gedney; Type ABLG.
3. Conduit Hub:
 - a. Material: Cast Aluminum with insulated throat.
 - b. Manufacturers:
 - 1) O.Z. Gedney; Series CHA.
 - 2) T & B; Series 370AL.
5. Conduit Bodies:
 - a. Material: Cast Aluminum, sized as required by NFPA 70.
 - b. Manufacturers:
 - 1) Appleton; Form 85 threaded Unilets.
 - 2) Crouse-Hinds; Mark 9 or Form 7-SA threaded condulets.
 - 3) Killark; Series O Electrolets.
6. Couplings: As supplied by conduit manufacturer.
7. Conduit Sealing Fitting Manufacturers:
 - a. Appleton; Type EYF-AL or EYM-AL.
 - b. Crouse-Hinds; Type EYS-SA or EZS-SA.
 - c. Killark; Type EY or EYS.
8. Drain Seal Manufacturers:
 - a. Appleton; Type EYDM-A.
 - b. Crouse-Hinds; Type EYD-SA or EZD-SA.
9. Drain/Breather Fitting Manufacturers:
 - a. Appleton; Type ECDB.
 - b. Crouse-Hinds; ECD.
10. Expansion Fitting Manufacturers:
 - a. Deflection/Expansion Movement:
 - 1) Steel City; Type DF-A

- b. Expansion Movement Only:
 - 1) Steel City; Type AF-A
- 11. Cable Sealing Fittings:
 - a. To form watertight non-slip cord or cable connection to conduit.
 - b. For Conductors with OD of 1/2 Inch or Less: Neoprene bushing at connector entry.
 - c. Manufacturers:
 - 2) Appleton; CG-S.
- B. Flexible Metal, Liquid-Tight Conduit:
 - 1. Metal insulated throat connectors with integral nylon or plastic bushing rated for 105 degrees Celsius.
 - 2. Insulated throat and sealing O-rings.
 - 3. Long design type extending outside of box or other device at least 2 inches.
 - 4. Manufacturer: T & B; Series 5300.
- C. Flexible, Nonmetallic, Liquid-Tight Conduit: Meet requirements of UL 514B.
 - 1. Type: One-piece fitting body, complete with lock nut, O-ring, threaded ferrule, sealing ring, and compression nut.
 - 2. Manufacturers:
 - a. Carlon; Type LT.
 - b. Kellems; Polytuff.
 - c. T & B; LT Series.
- D. Watertight Entrance Seal Device:
 - 1. New Construction:
 - a. Material: Oversized sleeve, malleable iron body with sealing ring, pressure ring, grommet seal, and pressure clamp.
 - b. Manufacturer: O.Z./Gedney; Type FSK or WSK, as required.
 - 2. Gored-Hole Application:
 - a. Material: Assembled dual pressure disks, neoprene sealing ring, and membrane clamp.
 - b. Manufacturer: O.Z./Gedney; Series CSM.
- E. Hazardous Locations: Approved for use in the atmosphere involved.
 - 1. Manufacturer: Crouse-Hinds; Type ECGJH.

2.03 WIREWAYS

- A. Meet requirements of UL 870.

- B. Type: Steel-enclosed, with removable, hinged cover.
- C. Rating: Outdoor raintight if outdoor, and indoor if indoor.
- D. Finish: Gray, baked enamel.
- E. Manufacturers:
 - 1. Square D.
 - 2. B-Line Systems, Inc.

2.04 ACCESSORIES

- A. Identification Devices:
 - 1. Raceway Tags:
 - a. Material: Permanent, nylon.
 - b. Shape: Round.
 - c. Raceway Designation: Pressure stamped, embossed, or engraved.
 - d. Tags relying on adhesives or taped-on markers not permitted.

PART 3 - EXECUTION

3.01 GENERAL

- A. Conduit and Tubing sizes shown are based on the use of copper conductors.
- B. All installed Work shall comply with NECA 5055.
- C. Crushed or deformed raceways not permitted.
- D. Maintain raceway entirely free of obstructions and moisture.
- E. Immediately after installation, plug or cap raceway ends with watertight and dust-tight seals until time for pulling in conductors.
- F. Aluminum Conduit: Do not install in direct contact with concrete.
- G. Sealing Fittings: Provide drain seal in vertical raceways where condensate may collect above sealing fitting.
- H. Avoid moisture traps where possible. When unavoidable in exposed conduit runs, provide junction box and drain fitting at conduit low point.
- I. Group raceways installed in same area.
- J. Proximity to Heated Piping: Install raceways minimum 12 inches from parallel runs.

- K. Follow structural surface contours when installing exposed raceways. Avoid obstruction of passageways.
- L. Run exposed raceways parallel or perpendicular to walls, structural members, or intersections of vertical planes.
- M. Block Walls: Do not install raceways in same horizontal course with reinforcing steel.
- N. Install watertight fittings in outdoor, underground, or wet locations.
- O. Paint threads, before assembly of fittings, of galvanized conduit with zinc-rich paint or liquid galvanizing compound.
- P. Paint threads, before assembly of fittings, of aluminum conduit with a non-oxidation compound.
- Q. All metal conduit to be reamed, burrs removed, and cleaned before installation of conductors, wires, or cables.
- R. Do not install raceways in concrete equipment pads, foundations, or beams.
- S. Horizontal raceways installed under floor slabs shall lie completely under slab, with no part embedded within slab.
- T. Install concealed, embedded, and buried raceways so that they emerge at right angles to surface and have no curved portion exposed.

3.02 CONDUIT APPLICATION

- A. Diameter: Minimum 3/4 inch.
- B. Exterior, Exposed:
 - 1. Rigid Aluminum Conduit all other areas.
- C. Interior, Exposed:
 - 1. Rigid Aluminum Conduit all other areas.

3.03 CONNECTIONS

- A. For motors, wall or ceiling mounted fans and unit heaters, dry type transformers, electrically operated valves, instrumentation, and other equipment where flexible connection is required to minimize vibration:
 - 1. Conduit Size 4 Inches or Less: Flexible metal, liquid-tight conduit.
 - 2. Conduit Size Over 4 Inches: Nonflexible.
 - 3. Corrosive Areas: Flexible, nonmetallic, liquid or PVC-coated metallic, liquid-tight.

4. Length: 18-inch minimum, 60-inch maximum, of sufficient length to allow movement or adjustment of equipment.

3.04 PENETRATIONS

- A. Make at right angles, unless otherwise shown.
- B. Notching or penetration of structural members, including footings and beams, not permitted.
- C. Fire-Rated Walls, Floors, or Ceilings: Fire-stop openings around penetrations to maintain fire-resistance rating.
- D. Apply single layer of wraparound duct band to all metallic conduit in contact with concrete floor slabs to a point 2 inches above concrete surface.
- E. Concrete Walls, Floors, or Ceilings (Aboveground): Provide nonshrink grout dry-pack, or use watertight seal device.

3.05 SUPPORT

- A. Support from structural members only, at intervals not exceeding NFPA 70 requirements, and in any case not exceeding 10 feet. Do not support from piping, pipe supports, or other raceways.
- B. Multiple Adjacent Raceways: Provide ceiling trapeze. For trapeze-supported conduit, allow 40 percent extra space for future conduit.
- C. Provide and attach wall brackets, strap hangers, or ceiling trapeze as follows:
 1. Wood: Wood screws.
 2. Hollow Masonry Units: Toggle bolts.
 3. Concrete or Brick: Expansion shields, or threaded studs driven in by powder charge, with lock washers and nuts.
 4. Steelwork: Machine screws.
- D. Nails or wooden plugs inserted in concrete or masonry for attaching raceway not permitted. Do not weld raceways or pipe straps to steel structures. Do not use wire in lieu of straps or hangers.

3.06 BENDS

- A. Install concealed raceways with a minimum of bends in the shortest practical distance.
- B. Make bends and offsets of longest practical radius.
- C. Install with symmetrical bends or cast metal fittings.

- D. Avoid field-made bends and offsets, but where necessary, make with acceptable hickey or bending machine. Do not heat metal raceways to facilitate bending.
- E. Make bends in parallel or banked runs from same center or centerline with same radius so that bends are parallel.
- F. Factory elbows may be installed in parallel or banked raceways if there is change in plane of run, and raceways are same size.
- H. Flexible Conduit: Do not make bends that exceed allowable conductor bending radius of cable to be installed or that significantly restricts conduit flexibility.

3.07 WIREWAYS

- A. Install in accordance with manufacturer's instructions.
- B. Locate with cover on accessible vertical face of wireway, unless otherwise shown.

3.08 TERMINATION AT ENCLOSURES

- A. Cast Metal Enclosure: Provide manufacturer's premolded insulating sleeve inside metallic conduit terminating in threaded hubs.
- B. Sheet Metal Boxes, Cabinets, and Enclosures:
 - 1. Flexible Metal Conduit: Provide two screw type, insulated, malleable iron connectors.
 - 2. Flexible, Nonmetallic Conduit: Provide nonmetallic, liquid-tight strain relief connectors.
 - 3. Rigid Aluminum Conduit:
 - a. Provide one lock nut each on inside and outside of enclosure.
 - b. Install grounding bushing.
 - c. Provide bonding jumper from grounding bushing to equipment ground bus or ground pad; if neither ground bus nor pad exists, connect jumper to lag bolt attached to metal enclosure.
 - d. Install insulated bushing on ends of conduit where grounding is not required.
 - e. Provide insulated throat when conduit terminates in sheet metal boxes having threaded hubs.
- C. Motor Control Center, Switchboard, Switchgear, and Free-Standing Enclosures: Terminate conduit entering bottom with grounding bushing; provide a grounding jumper extending to equipment ground bus or grounding pad.

3.09 EMPTY RACEWAYS

- A. Provide permanent, removable cap over each end.

- B. Provide nylon pull cord.
- C. Identify, as specified in Paragraph IDENTIFICATION DEVICES, with waterproof tags attached to pull cord at each end, and at intermediate pull point.

3.10 IDENTIFICATION DEVICES

- A. Raceway Tags:
 - 1. Identify origin and destination.
 - 2. Install at each terminus, near midpoint, and at minimum intervals of every 50 feet of exposed Raceway, whether in ceiling space or surface mounted.
 - 3. Provide nylon strap for attachment.

3.11 PROTECTION OF INSTALLED WORK

- A. Protect products from effects of moisture, corrosion, and physical damage during construction.
- B. Provide and maintain manufactured watertight and dust-tight seals over all conduit openings during construction.
- C. Touch up painted conduit threads after assembly to cover nicks or scars.

END OF SECTION

SECTION 16120

CONDUCTORS

PART 1 - GENERAL

1.01 REFERENCES

- A. The following is a list of standards that may be referenced in this section:
1. American National Standards Institute (ANSI): 386, Standard for Separable Insulated Connector Systems for Power Distribution Systems above 600V.
 2. American Society for Testing and Materials (ASTM):
 - a. A167, Standard Specification for Stainless and Heat Resisting Chromium-Nickel-Plated Steel Plate, Sheet, and Strip.
 - b. B3, Standard Specification for Soft or Annealed Copper Wire.
 - c. B8, Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft.
 - d. B263, Standard Test Method for Determination of Cross-Sectional Area of Stranded Conductors.
 3. Association of Edison Illuminating Companies (AEIC):
 - a. CS 5, Cross-linked Polyethylene Insulated Shielded Power Cables Rated 5 Through 35 kV.
 - b. CS 6, Ethylene-Propylene-Rubber-Insulated Shielded Power Cables Rated 5 Through 69 kV.
 4. Insulated Cable Engineer's Association, Inc. (ICEA): T-29-250, Procedure for Conducting Vertical Cable Tray Flame Test with a Theoretical Heat Input of 210,000 Btu/hour.
 5. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
 - a. 48, Standard Test Procedures and Requirements for High-Voltage Alternating Current Cable Terminations.
 - b. 404, Standard for Cable Joints for Use with Extruded Dielectric Cable Rated 5,000V through 46,000V and Cable Joints for Use with Laminated Dielectric Cable Rated 2,500V through 500,000V.
 6. National Electrical Contractors Association, Inc. (NECA): 5055, Standard of Installation.
 7. National Electrical Manufacturers' Association (NEMA):
 - a. CC 1, Electric Power Connectors for Substations.

- b. WC 3, Rubber-insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
 - c. WC 5, Thermoplastic Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
 - d. WC 7, Crosslinked-Thermosetting-Polyethylene-insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
 - e. WC 8, Ethylene-Propylene-Rubber Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.
 - f. WC 55, Instrumentation Cables and Thermocouple Wire.
8. National Fire Protection Association (NFPA): 70, National Electrical Code (NEC).
9. Underwriters Laboratories, Inc. (UL):
- a. 13, Standard for Safety Power-Limited Circuit Cables.
 - b. 44, Standard for Safety Rubber-Insulated Wires and Cables.
 - c. 62, Standard for Safety Flexible Cord and Fixture Wire.
 - d. 486A, Standard for Safety Wire Connector and Soldering Lugs for Use with Copper Conductors.
 - e. 486B, Standard for Safety Wire Connectors and Soldering Lugs for Use with Aluminum Conductors.
 - f. 510, Standard for Safety Insulating Tape.
 - g. 854, Standard for Safety Service-Entrance Cables.
 - h. 910, Standard for Safety Test Method for Fire and Smoke Characteristics of Electrical and Optical-Fiber Cables Used in Air Handling Spaces.
 - i. 1072, Standard for Safety Medium-Voltage Power Cables.
 - j. 1277, Standard for Safety Electrical Power and Control Tray Cables with Optional Optical-Fiber Members.
 - k. 1581, Standard for Safety Reference Standard for Electrical Wires, Cables, and Flexible Cords.

1.02 SUBMITTALS

A. Shop Drawings:

- 1. Wire and cable descriptive product information.
- 2. Wire and cable accessories descriptive product information.

B. Quality Control Submittals:

- 1. Certified Factory Test Report for conductors 600 volts and below.

1.03 UL COMPLIANCE

- A. Materials manufactured within scope of Underwriters Laboratories shall conform to UL Standards and have an applied UL listing mark.

PART 2 - PRODUCTS

2.01 CONDUCTORS 600 VOLTS AND BELOW

- A. Conform to applicable requirements of NEMA WC 3, WC 5, and WC 7.
- B. Conductor Type:
 - 1. 120- and 277-Volt Lighting, No. 10 AWG and Smaller: Stranded copper.
 - 2. 120-Volt Receptacle Circuits, No. 10 AWG and Smaller: Stranded copper.
 - 3. All Other Circuits: Stranded copper.
- C. Insulation: Type THHN/THWN for No.6 AWG and smaller. XHHW for No.4 AWG and larger or installations in wet location.
- D. Flexible Cords and Cables:
 - 1. Type SOW-A50 with ethylene propylene rubber insulation in accordance with UL 62.
 - 2. Conform to physical and minimum thickness requirements of NEMA WC 8.

2.02 600-VOLT RATED CABLE

- A. General:
 - 1. Type: TC, meeting requirements of UL 1277, including Vertical Tray Flame Test at 20,000 Btu/hr, and NFPA 70, Article 340, or UL 13 Listed Power Limited Circuit Cable meeting requirements of NFPA 70, Article 725.
 - 2. Permanently and legibly marked with manufacturer's name, maximum working voltage for which cable was tested, type of cable, and UL listing mark.
 - 3. Suitable for installation in open air, in cable trays, or conduit.
 - 4. Minimum Temperature Rating: 90 degrees C dry locations, 75 degrees C wet locations.
 - 5. Overall Outer Jacket: PVC, flame-retardant, sunlight- and oil-resistant.
- B. Wire and Connectors:
 - 1. Cable shall be rated for 600 volts and shall meet the requirements below:

- a. Conductors shall be stranded
 - b. All wire shall be brought to the job in unbroken packages and shall bear the data of manufacturing; not older than 12 months.
 - c. Type of wire shall be XHHW or THWN, rated 75 degrees C suitable for wet locations except where required otherwise by the drawings.
 - d. No wire smaller than No. 12 gauge shall be used unless specifically indicated.
 - e. Conductor metal shall be copper.
 - f. All conductors shall be megger tested after installation and insulation must be in compliance with the Insulated Power Cable Engineers Association Minimum Values of Insulation Resistance.
- C. Type B-No. 16 AWG, Twisted, Shielded Pair, Instrumentation Cable: Single pair, designed for noise rejection for process control, computer, or data log applications meeting NEMA WC 55 requirements.
- 1. Outer Jacket: 45-mil nominal thickness.
 - 2. Individual Pair Shield: 1.35-mil, double-faced aluminum/synthetic polymer overlapped to provide 100 percent coverage.
 - 3. Dimension: 0.31-inch nominal OD.
 - 4. Conductors:
 - a. Bare soft annealed copper, Class B, seven-strand concentric, meeting requirements of ASTM B8.
 - b. 20 AWG, seven-strand tinned copper drain wire.
 - c. Insulation: 15-mil nominal PVC.
 - d. Jacket: 4-mil nominal nylon.
 - e. Color Code: Pair conductors black and red.
 - 5. Manufacturers:
 - a. Okonite Co.
 - b. Alpha Wire Corp.
 - 6. The following test shall be performed on instrumentation and control system cables. All tests shall be end-to-end test of installed cables with the ends supported in free air, not adjacent to any ground object. All test data shall be

recorded on forms acceptable to the Engineer. Complete records of all tests shall be made and delivered to the Engineer.

- a. Continuity tests shall be performed by measuring wire/shield loop resistances of signal cable as the wires, taken one at a time, are shorted to the channel shield. No loop resistance measurement shall carry by more than +2 ohms from the calculated average loop resistance value.
- b. Insulation resistance tests shall be performed by using a 500 volt megohmmeter to measure the insulation resistance between each channel wire and channel shield, between individual channel shields in a multi-channel cable, between each individual channel and the overall cable shield in multi-channel cable, between each wire and ground, and between each shield and ground. Values of resistance less than 10 megohms shall be unacceptable.

2.03 GROUNDING CONDUCTORS

- A. Equipment: Stranded copper with green, Type USE/RHH/RHW-XLPE or THHN/THWN, insulation.

2.04 ACCESSORIES FOR CONDUCTORS 600 VOLTS AND BELOW

- A. Tape:

1. General Purpose, Flame Retardant: 7-mil, vinyl plastic, Scotch Brand 33, rated for 90 degrees C minimum, meeting requirements of UL 510.
2. Flame Retardant, Cold and Weather Resistant: 8.5-mil, vinyl plastic, Scotch Brand 88.
3. Arcs and Fireproofing:
 - a. 30-mil, elastomer
 - b. Manufacturers and Products:
 - 1) Scotch; Brand 77, with Scotch Brand 69 glass cloth tape binder.
 - 2) Plytount; Plyarc 30, with Plymount Plyglas glass cloth tape binder.

- B. Identification Devices:

1. Sleeve: Permanent, PVC, yellow or white, with legible machine-printed black markings.
2. Marker Plate: Nylon, with legible designations permanently hot stamped on plate.
3. Grounding Conductor: Permanent green heat-shrink sleeve, 2-inch minimum.

4. Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on all Shop Drawings. These numbers shall be marked on all conductors at every terminal using permanently marked heat-shrink plastic. Instrument signal circuit conductors shall be tagged with unique multiple digit numbers. Black and white wires from the circuit breaker panelboard shall be tagged including the one (1) or two (2) digit number of the branch circuit breaker.

C. Connectors and Terminations:

1. Nylon, Self-Insulated Crimp Connectors:

- a. Manufacturers and Products:

- 1) Thomas & Betts; Sta-Kon.
 - 2) Burndy; Insulink.
 - 3) ILSCO.

2. Nylon, Self-Insulated, Crimp Locking-Fork, Torque-Type Terminator:

- a. Manufacturers and Products:

- 1) Thomas & Betts; Sta-Kon.
 - 2) Burndy; Insulink.
 - 3) ILSCO.

D. Cable Lugs:

1. In accordance with NEMA CC I.

2. Rated 600 volts of same material as conductor metal.

3. Insulated, Locking-Fork, Compression Lugs:

- a. Manufacturers and Products:

- 1) Thomas & Betts; Sta-Kon.
 - 2) ILSCO; ILSCONS.

4. Un-insulated Crimp Connectors and Terminators:

- a. Manufacturers and Products:

- 1) Square D; Versitide.
 - 2) Thomas & Betts; Color-Keyed.

- 3) ILSCO.
 - 5. Un-insulated, Bolted, Two-Way Connectors and Terminators:
 - a. Manufacturers and Products:
 - 1) Thomas & Betts; Locktite.
 - 2) Burndy; Quiklug.
 - 3) ILSCO.
 - E. Cable Ties: Nylon, adjustable, self-locking, and reusable.
 - 1. Manufacturers and Product: Thomas & Betts; TY-RAP.
 - F. Heat Shrinkable Insulation: Thermally stabilized, cross-linked polyofin.
 - 1. Manufacturers and Product: Thomas & Betts; SHRINK-KON.
- 2.05 PULLING COMPOUND
- A. Nontoxic, non-corrosive, noncombustible, nonflammable, wax-based lubricant; UL listed.
 - B. Suitable for rubber, neoprene, PVC, polyethylene, hypalon, CPE, and lead-covered wire and cable.
 - C. Suitable for zinc-coated steel, aluminum, PVC, bituminized fiber, and fiberglass raceways.
 - D. Manufacturers and Products:
 - 1. Ideal Co.; Yellow 77.
 - 2. Polywater, Inc.
 - 3. Cable Grip Co.
- 2.06 SOURCE QUALITY CONTROL
- A. Conductors 600-Volts and Below: Test in accordance with UL 44 and 854 Standards.

PART 3 - EXECUTION

3.01 GENERAL

- A. Conductor installation to be in accordance with NECA 5055.

- B. Conductor and cable sizing shown is based on copper conductors, unless noted otherwise.
- C. Do not exceed cable manufacturer's recommendations for maximum pulling tensions and minimum bending radii.
- D. Tighten screws and terminal bolts in accordance with UL 486A for copper conductors.
- E. Cable Lugs: Provide with correct number of holes, bolt size, and center-to-center spacing as required by equipment terminals.
- F. Bundling: Where single conductors and cables in manholes, hand holes, vaults, and other indicated locations are not wrapped together by some other means, bundle conductors from each conduit throughout their exposed length with cable ties placed at intervals not exceeding 18 inches on center.
- G. Ream, remove burrs, and clear interior of installed conduit before pulling wires or cables.
- H. Concrete-Encased Raceway Installation: Prior to installation of conductors, pull through each raceway a mandrel approximately 1/4-inch smaller than raceway inside diameter.

3.02 POWER CONDUCTOR COLOR CODING

A. Conductors 600 Volts and Below:

1. No. 6 AWG and Larger: Apply general purpose, flame retardant tape at each end, and at accessible locations wrapped at least six full overlapping turns, covering an area 1-1/2 to 2 inches wide.
2. No. 8 AWG and Smaller: Provide colored conductors.
3. Colors: (Unless local Authority Having Jurisdiction has different requirements)

System	Conductor	Color
All Systems	Equipment Grounding	Green
240/120 Volts Single-Phase, Three-Wire	Grounded Neutral One Hot Leg Other Hot Leg	White Black Red
208Y/120 Volts Three-Phase, Four-Wire	Grounded Neutral Phase A Phase B Phase C	White Black Red Blue
240/120 Volts Three-Phase, Four-Wire Delta, Center Tap Ground on Single-Phase	Grounded Neutral Phase A High (wild) Leg Phase C	White Black Orange Blue
480Y/277 Volts Three-Phase, Four-Wire	Grounded Neutral Phase A Phase B	Gray Brown Orange

	Phase C	Yellow
NOTE: Phase A, B, C implies direction of positive phase rotation		

4. Tracer: Outer covering of white with an identifiable colored strip other than green in accordance with NFPA 70.

3.03 CIRCUIT IDENTIFICATION

- A. Circuits Appearing in Circuit Schedules: identify power, instrumentation, and control conductor circuits, using circuit schedule designations, at each termination and in accessible locations such as manholes, hand holes, panels, switchboards, motor control centers, pull boxes, and terminal boxes.
- B. Circuits Not Appearing in Circuit Schedules:
 1. Assign circuit name based on device or equipment at load end of circuit.
 2. Where this would result in same name being assigned to more than one circuit, add number or letter to each otherwise identical circuit name to make it unique.
- C. Method:
 1. Conductors No. 3 AWG and Smaller: Identify with sleeves.
 2. Cables, and Conductors No. 2 AWG and Larger:
 - a. Identify with marker plates.
 - b. Attach marker plates with nylon tie cord.
 3. Taped-on markers or tags relying on adhesives not permitted.
- D. Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number which shall be shown on all contractor as-built drawings. These numbers shall be marked on all conductors at every terminal using permanently marked heat-shrink plastic. Instrument signal circuit conductors shall be tagged with unique multiple digit numbers.

3.04 CONDUCTORS 600 VOLTS AND BELOW

- A. Install 10 AWG or 12 AWG conductors for branch circuit power wiring in lighting and receptacle circuits.
- B. Do not splice incoming service conductors and branch power distribution conductors No. 6 AWG and larger unless specifically indicated or approved by ENGINEER.
- C. Connections and Terminations:
 1. Install wire nuts only on solid conductors.

2. Install nylon self-insulated crimp connectors and terminators for instrumentation, control, and power circuit conductors No. 6 AWG and smaller.
 3. Install un-insulated crimp connectors and terminators for instrumentation, control, and power circuit conductors No. 4 AWG through No. 2/0 AWG.
 4. Install un-insulated, bolted, two-way connectors and terminators for power circuit conductors No. 4/0 AWG and larger.
 5. Install un-insulated bolted two-way connectors for motor circuit conductors No. 12 and larger.
 6. Tape insulates all un-insulated connections.
 7. Place no more than one conductor in any single-barrel pressure connection.
 8. Install crimp connectors with tools approved by connector manufacturer.
 9. Install terminals and connectors acceptable for type of material used.
 10. Compression Lugs
 - a. Attach with a tool specifically designed for purpose.
 - b. Tool shall provide complete controlled crimp and shall not release until crimp is complete.
 - c. Do not use plier-type crimpers.
- D. Do not use soldered mechanical joints.
- E. Splices and Terminations:
1. Indoors: Use general purpose, flame retardant tape.
 2. Outdoors: Use flame retardant, cold- and weather-resistant tape.
- F. Cap spare conductors and conductors with UL listed end caps.
- G. Cabinets, Panels, and Motor Control Centers:
1. Remove surplus wire, bridle and secure.
 2. Where conductors pass through openings or over edges in sheet metal, remove bums, chamfer edges, and install bushings and protective strips of insulating material to protect the conductors.

END OF SECTION

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED, FURNISHED AND INSTALLED UNDER OTHER SECTIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS SECTION.
1" C, 2#12, 1#12G 1" C, 1-25/C TYPE 1	INDICATES RACEWAY AND CIRCUIT CONDUCTORS. FIRST NUMBER IS RACEWAY SIZE. THE FOLLOWING NUMBERS ARE THE CONDUCTOR QUANTITIES, SIZES, AND TYPES.
	MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED
	LUMINAIRE AND POLE - SEE DRAWINGS FOR TYPE
	WALL MOUNTED LUMINAIRE - SEE DRAWINGS FOR TYPE
<u>LIGHTING FIXTURE POWER AND SWITCHING LEGEND</u>	
	X=FIXTURE TYPE Y= PANEL-CIRCUIT BRKR Z= SWITCH CRE-CORROSION RESISTANT IF NO Z INDICATED, CONNECT DIRECTLY TO CIRCUIT BREAKER.
	GROUND ROD - 3/4" x 20' COPPER CLAD UNLESS OTHERWISE NOTED
	GROUND ROD WITH TEST WELL - 3/4" x 20' COPPER CLAD UNLESS OTHERWISE NOTED
S	WALL SWITCH: 2- DOUBLE POLE P- PILOT LIGHT 3- THREE WAY K- KEY OPERATED 4- FOUR WAY D- DIMMER WP-WEATHERPROOF CRE-CORROSION RESISTANT
SM	MANUAL MOTOR STARTER SWITCH, NEMA 4X UNLESS OTHERWISE NOTED. NUMBER OF POLES AS REQUIRED
	GENERATOR
	CONVENIENCE RECEPTACLE 20A RATED- DUPLEX UNLESS SPECIFIED OTHERWISE WP-WEATHERPROOF C- CLOCK HANGER TL- TWIST LOCK CRE-CORROSION RESISTANT GFI-GROUND FAULT INTERRUPTER
	JUNCTION BOX NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. 4X = NEMA 4X SS
	TELEPHONE RECEPTACLE (OUTLET BOX, 18" AFF) W - WALL MOUNTED, 48" AFF
	CONDUIT/CONDUCTOR - REFER TO CIRCUIT SCHEDULE HOME RUN - PANEL AND CIRCUIT NUMBER SHOWN
	EXPOSED CONDUIT AND CONDUCTORS*
	UNDERGROUND CONDUIT AND CONDUCTORS* NOTE: * ALL UNMARKED CONDUIT RUNS CONSIST OF 2#12, 1#12G IN 3/4" C.
	YARD CONDUIT. REFER TO YARD CONDUIT SCHEDULE
	DIRECT BURIED CABLE
	CONDUIT, STUBBED AND CAPPED AS SHOWN
	GROUND WIRE, #4/0 UNLESS OTHERWISE NOTED
	NONFUSED DISCONNECT SWITCH, SIZE INDICATED, 3 POLE UNLESS INDICATED OTHERWISE, NEMA 12 ENCLOSURE, 4X = NEMA 4X 316 STAINLESS STEEL
	FUSED DISCONNECT SWITCH, SIZE INDICATED (60 = SWITCH RATING; 40 = FUSE RATING) 3 POLE UNLESS INDICATED OTHERWISE, NEMA 12 ENCLOSURE, 4X = NEMA 4X 316 STAINLESS STEEL
	LIGHTING CONTACTOR, CURRENT RATING INDICATED, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM FOR NUMBER OF POLES. 4X = NEMA 4X 316 STAINLESS STEEL
	MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE, UNLESS INDICATED OTHERWISE. SEE CONTROL DIAGRAM. 4X = NEMA 4X 316 STAINLESS STEEL
	COMBINATION (FUSE OR CIRCUIT BREAKER AS INDICATED). MAGNETIC STARTER, NEMA SIZE INDICATED, NEMA 12 ENCLOSURE UNLESS INDICATED OTHERWISE. SEE CONTROL SCHEMATIC DIAGRAM. 4X = NEMA 4X 316 STAINLESS STEEL

SYMBOL	DESCRIPTION
	TRANSFORMER, VOLTAGES, PHASE AND RATING INDICATED AS APPLICABLE 120V 480-120/208V 15 KVA, 3Ø
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
	REMOTE DEVICE
	SELECTOR SWITCH: MAINTAINED CONTACT WITH CONTACT POSITION INDICATED, CHART IDENTIFIES OPERATION
	CONTACT - NORMALLY OPEN WITH COIL INDICATED
	CONTACT - NORMALLY CLOSED WITH COIL INDICATED
	OVERLOAD RELAY HEATER
	MAGNETIC STARTER WITH NEMA SIZE INDICATED
	MOTOR CIRCUIT PROTECTOR, MAGNETIC, 3 POLE UNLESS INDICATED OTHERWISE.
	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE UNLESS INDICATED OTHERWISE.
	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.
	SWITCH - CURRENT RATING INDICATED, 3 POLE UNLESS INDICATED OTHERWISE.
	SPD SURGE PROTECTIVE DEVICE
	DEMOLITION TO BE REMOVED OR DELETED
	FUSE
	CRX CONTROL RELAY, X=SEQUENTIAL NUMBER

ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION	ABBREVIATIONS	DESCRIPTION
AFF	ABOVE FINISHED FLOOR	HVAC	HEATING, VENTILATING & AIR CONDITIONING
AFG	ABOVE FINISHED GRADE	IC	INTERRUPTING CAPACITY
AIT	ANALYTICAL INSTRUMENT TRANSMITTER	I & C	INSTRUMENTATION AND CONTROL
AE	ANALYTICAL ELEMENT	IP	INSTRUMENT PANEL (PANELBOARD)
ATS	AUTOMATIC TRANSFER SWITCH	J, J-BOX	JUNCTION BOX
C	CONDUIT, CONTACTOR	LC	LIGHTING CONTACTOR
CB	CIRCUIT BREAKER	LR	LOCAL/REMOTE
CKT	CIRCUIT	LS	LIMIT SWITCH
CPT	CONTROL POWER TRANSFORMER	LTG	LIGHTING
CR	CONTROL RELAY	M	MAGNETIC CONTACTOR COIL OR MOTOR
CT	CURRENT TRANSFORMER	MCC	MOTOR CONTROL CENTER
DIV	DIVISION	MDP	MAIN DISTRIBUTION PANEL
ETM	ELAPSED TIME METER	MH	MOTOR HEATER, MANHOLE
EXST	EXISTING	MLO	MAIN LUGS ONLY
F, FU	FUSE	MPZ	MINI POWER ZONE
FI	FLOW INDICATOR	MTD	MOTOR TEMPERATURE DETECTOR
FM	FLOW METER	N	NEUTRAL
FS01	FLOW SWITCH 01	NC	NORMALLY CLOSED
FT	FLOW TRANSMITTER	NEMA	NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
FUT	FUTURE	NO	NORMALLY OPEN
FVNR	FULL VOLTAGE NON-REVERSING STARTER	NTS	NOT TO SCALE
GALV	GREEN, GROUND GALVANIZED	OL	OVERLOAD RELAY
GEN	GENERATOR	SS	STAINLESS STEEL
GFI	GROUND FAULT INTERRUPTER		
GND	GROUND		
HH	HANDHOLE		
HOA	HAND/OFF/AUTO		
HOR	HAND/OFF/REMOTE		
MSC	MANUFACTURER SUPPLIED CABLE		
FRP	FIBERGLASS-REINFORCED POLYESTER		

ABBREVIATIONS	DESCRIPTION	ABBREVIATIONS	DESCRIPTION
PB	PULL BOX	SSRVS	SOLID STATE REDUCED VOLTAGE STARTER
PG	PRESSURE GAUGE	SS	STAINLESS STEEL
PCM	EXISTING PLANT CONTROL PANEL	SV	SOLENOID VALVE
PH	PHASE MONITOR	SW	SWITCH
PM	POWER MONITOR	T	THERMOSTAT
PNL	PANEL	TB	TERMINAL BOARD
PP	POWER PANEL (480VAC)	TC3S	TERMINAL CABINET 3 SIGNAL
PS	PRESSURE SWITCH	TJB	TERMINAL JUNCTION BOX
PVC	POLYVINYL CHLORIDE CONDUIT	TS	THERMAL SWITCH
RTU	REMOTE TELEMETRY UNIT	TSP	TWISTED SHIELDED PAIR
RGS	RIGID GALVANIZED STEEL	TYP	TYPICAL
SF	SUPPLY FAN	V	VOLTMETER, VOLT
SH	SPACE HEATER	VD	VOLTAGE DROP
SPD	SURGE PROTECTIVE DEVICE	WP	WEATHERPROOF - NEMA 4X
		XFMR	TRANSFORMER

GENERAL NOTES AND SPECIFICATIONS:

- THE SCOPE OF WORK SHALL BE AS SHOWN ON PLANS AND AS DESCRIBED IN SPECIFICATIONS.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR TO INSTALL THE ELECTRICAL SYSTEMS AS INDICATED PER PLANS AND SPECIFICATIONS. ITEMS NOT SHOWN BUT OBVIOUSLY NECESSARY FOR COMPLETION OF THE WORK SHALL BE INCLUDED.
- THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE, LOCAL CITY CODES, LOCAL COUNTY CODES, AND FLORIDA BUILDING CODE WITH AMENDMENTS.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INSPECTIONS AND APPROVALS AND TO INCLUDE ALL FEES AS PART OF THEIR BID IF NOT OTHERWISE NOTED. THE CONTRACTOR SHALL COORDINATE THEIR WORK WITH THE ENGINEER AND OWNER.
- THE CONTRACTOR SHALL, BEFORE SUBMITTING THEIR BID, VISIT THE SITE OF THE PROJECT AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS. NO ALLOWANCE WILL BE MADE FOR EXISTING CONDITIONS OR FAILURE OF THE CONTRACTOR TO OBSERVE THEM.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL LOCAL UTILITIES, INCLUDING THE POWER UTILITY TO MEET ALL OF THEIR INSTALLATION REQUIREMENTS. ALL FEES, LABOR, EQUIPMENT OR MATERIALS NECESSARY TO MEET THESE REQUIREMENTS IS TO BE INCLUDED IN THE BID. THE CONTRACTOR SHALL OBTAIN, DELIVER AND INSTALL ALL CONDUITS, PULL-BOXES AND EQUIPMENT AS REQUIRED BY THE UTILITIES TO THEIR SPECIFICATIONS.
- ALL CONTRACTOR EQUIPMENT AND MATERIAL SHALL BE NEW, UNUSED AND U.L. LISTED.
- THE CONTRACTOR IS RESPONSIBLE TO TEST ALL SYSTEMS INSTALLED OR MODIFIED UNDER THIS PROJECT AND REPAIR OR REPLACE ALL DEFECTIVE WORK TO THE SATISFACTION OF THE ENGINEER AND OWNER.
- ALL EQUIPMENT FURNISHED AND INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE.
- COORDINATE ALL ELECTRICAL EQUIPMENT LOCATIONS AND VERIFY ALL OBSTRUCTIONS WITH ALL SUBCONTRACTORS AND EQUIPMENT SUPPLIERS PRIOR TO ANY INSTALLATION.
- NOT ALL CONDUITS SHOWN ON RISER AND ONE-LINE DIAGRAMS ARE SHOWN ON BUILDING OR SITE LAYOUTS. CONTRACTOR SHALL SUPPLY ALL CONDUITS AND CABLES AS SHOWN ON RISER AND ONE-LINE DIAGRAMS.
- THE DRAWINGS ARE NOT INTENDED TO SHOW THE EXACT LOCATION OF CONDUIT RUNS. THESE ARE TO BE COORDINATED WITH THE OTHER TRADES SO THAT CONFLICTS ARE AVOIDED PRIOR TO INSTALLATIONS. ALL LOCATIONS OF EQUIPMENT, PANELS ETC. ARE SHOWN FOR ILLUSTRATION PURPOSES. CONTRACTOR SHALL VERIFY EXACT LOCATION AND SIZE AND INSTALL AS SUCH WITH CORRESPONDING CONDUIT STUB-UPS. SEE OTHER DISCIPLINE DRAWINGS FOR COORDINATION OF ALL DRAWINGS. ANY CONFLICTS SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION AND MOVEMENT OF CONDUITS OR OTHER ELECTRICAL EQUIPMENT SHALL BE ACCOMPLISHED WITHOUT ANY ADDITIONAL COST FOR THE OWNER. DRAWINGS ARE SCHEMATIC AND SHOWN FOR CLARITY.
- ALL REFERENCES TO A PARTICULAR MANUFACTURER ARE GIVEN ON AN "APPROVED EQUAL" BASIS.
- MINIMUM DEPTH FROM TOP OF DUCTBANKS OR CONDUITS TO FINISHED GRADE SHALL BE 24" UNLESS OTHERWISE NOTED.

- ALL EXCAVATIONS FOR CONDUITS AND HANDHOLES, NEAR EXISTING PIPING, CONDUIT AND EQUIPMENT SHALL BE HAND EXCAVATED AND COORDINATED WITH PLANT ENGINEER.
- CONDUCTOR PULLING TENSIONS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. CONTRACTOR SHALL INSTALL PULL BOXES TO MEET MANUFACTURER'S REQUIREMENTS.
- MINIMUM DISTANCE ALLOWED BETWEEN CROSSING POWER CONDUITS AND INSTRUMENTATION CONDUITS SHALL BE 6 INCHES SEPARATION. MINIMUM DISTANCE ALLOWED BETWEEN PARALLEL POWER CONDUITS AND INSTRUMENTATION CONDUITS SHALL BE:

VOLTAGE	DISTANCE
480V	2 FT
120V	1 FT
- ALL YARD CONDUITS/ EXTERIOR UNDERGROUND CONDUITS SHALL BE CONCRETE ENCASED AS SHOWN ON DETAIL. PROVIDE WARNING TAPE.
- COLORLED WARNING TAPE 6" WIDE SHALL BE INSTALLED 12" BELOW FINISHED GRADE DIRECTLY ABOVE ALL UNDERGROUND CONCRETE ENCASEMENT.
- FLEXIBLE CONDUITS SHALL BE USED TO TERMINATE ALL MOTORS AND OTHER VIBRATING EQUIPMENT AND SHALL BE BETWEEN 18" AND 3' IN LENGTH.
- ALL SPARE CONDUITS SHALL BE CAPPED WITH A PVC CAP AND A NYLON PULL STRING INSTALLED WITH IDENTIFICATION ON BOTH ENDS.
- CONTRACTOR SHALL RESTORE SIDEWALKS, ROADWAYS, SOD AND SPRINKLER SYSTEM PIPING TO MATCH EXISTING, AFTER THE COMPLETION OF THE ELECTRICAL INSTALLATION, SUCH AS CONDUITS, PULLBOX, GROUNDING, ETC.
- ALL MATERIAL IN DESIGNATED CORROSIVE AREAS SHALL BE NEMA 4X 316 STAINLESS STEEL.
- ALL REFERENCES TO SS OR STAINLESS STEEL SHALL MEAN 316 STAINLESS STEEL.
- ALL CONTROL PANELS SHALL BE CONSTRUCTED BY A UL 508A APPROVED PANEL VENDOR AND SHALL BEAR A UL 508A LABEL ON THE PANEL.
- INSTRUMENTATION IS LOW VOLTAGE SIGNALS SUCH AS 4-20MA, TELEPHONE COMMUNICATION, FIRE ALARM COMMUNICATION. POWER CONDUIT SHALL ONLY CROSS INSTRUMENTATION CONDUIT PERPENDICULARLY AT RIGHT ANGLES WITH 6" SEPARATION.
- CONTRACTOR SHALL PROVIDE RECORD DRAWINGS TO THE OWNER WITHIN 30 DAYS OF SYSTEM ACCEPTANCE.
- CONTRACTOR SHALL PROVIDE OPERATION MANUALS TO THE OWNER.
- THE MAXIMUM VOLTAGE DROP FOR BRANCH CIRCUIT CONDUCTORS IS 3% PER FLORIDA BUILDING CODE AND NEC.
- ALL CONDUITS PENETRATING RATED FIRE WALLS OR RATED FIRE FLOORS SHALL BE INSTALLED WITH U.L. APPROVED DEVICES TO MAINTAIN THE FIRE RATING OF THE WALL OR FLOOR PENETRATED.
- DEMOLISH ALL ITEMS AS INDICATED ON DRAWINGS. TURN OVER TO THE OWNER AT THE OWNER'S DISCRETION AND PROPERLY DISPOSE OF ALL DEMOLITION ITEMS NOT WANTED BY THE OWNER.

LINE WEIGHT LEGEND

	NEW		EXISTING
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NOTE: THIS IS A STANDARD LEGEND SHEET. NOT ALL SYMBOLS SHOWN ON THIS SHEET ARE UTILIZED ON THE PLANS.

File Name: E:\PROJECTS\PP\PP10\leg\leg\PP10E01 - LEGEND\NOTES.dwg - (Plotted by: Kappes, James on Wednesday, April 17, 2019 4:52:27 PM)

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 23257 STATE ROAD 7, SUITE 100
 BOCA RATON, FLORIDA 33428
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 LICENSE NO: EB 0006877

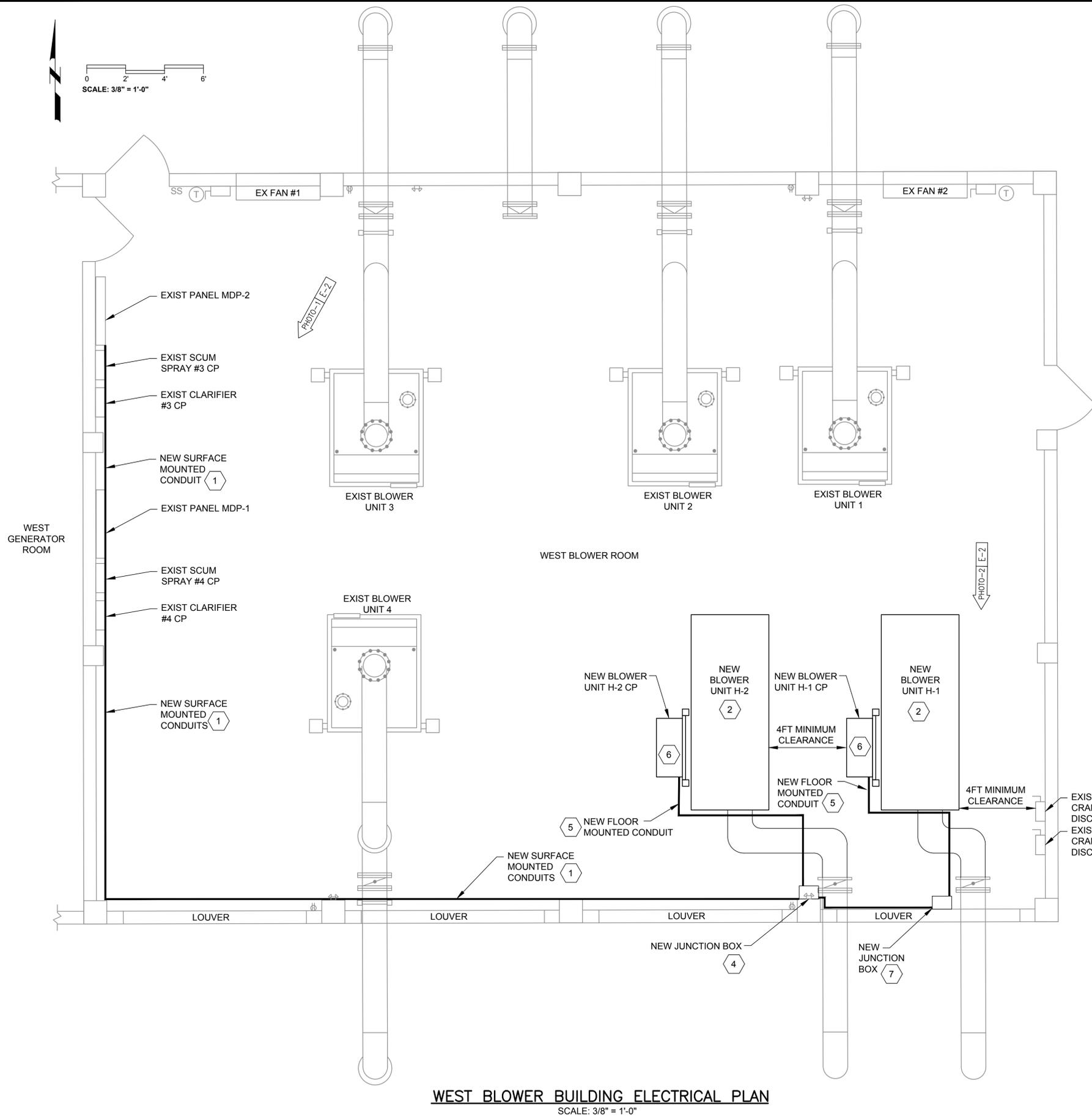
CITY OF PEMBROKE PINES
WWTP - WEST BACKUP BLOWERS
 PEMPROKE PINES, FLORIDA

ELECTRICAL LEGEND AND GENERAL NOTES

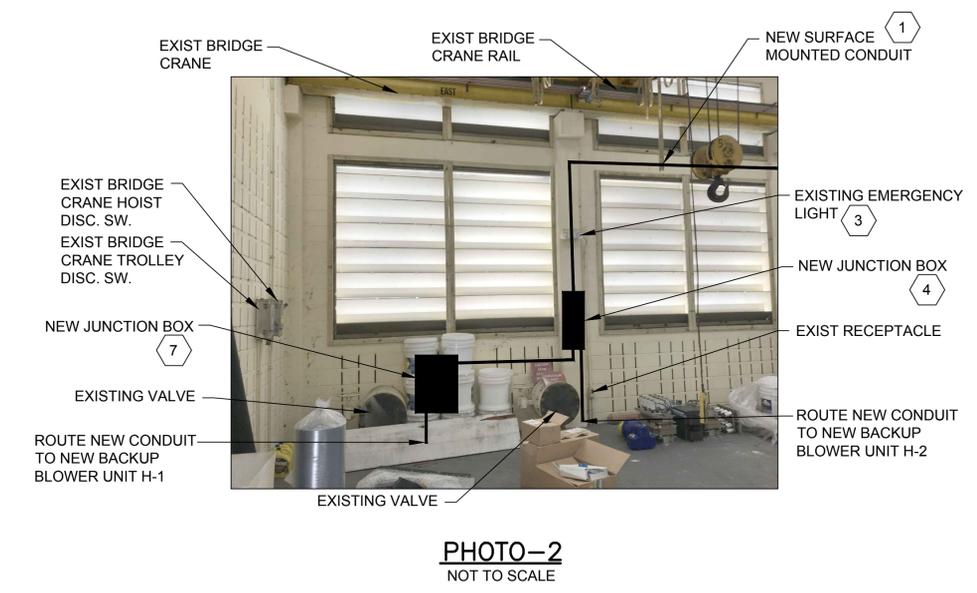
JAMES W. KAPPE, P.E.
 STATE OF FLORIDA PROFESSIONAL ENGINEER
 LICENSE NO. 71499
 DATE: APRIL 2019

SCALE	NONE	SHEET	E-1
PROJECT No	PP10		

File Name: E:\PROJECTS\PP\PP10.dwg - BLOWER BUILDING ELECTRICAL PLAN.dwg - (Plotted by: Kappes, James on Wednesday, April 17, 2019 4:52:36 PM)



WEST BLOWER BUILDING ELECTRICAL PLAN
SCALE: 3/8" = 1'-0"



KEYED NOTES:

- 1 CONTRACTOR SHALL ROUTE CONDUITS BELOW BRIDGE CRANE SUPPORTS AS SHOWN IN PHOTO-1 AND PHOTO-2. COORDINATE CONDUIT ROUTING WITH OWNER AND ENGINEER PRIOR TO CONSTRUCTION. CONDUITS SHALL NOT IMPEDE BRIDGE CRANE OPERATIONS.
- 2 BACKUP BLOWER UNITS PROVIDED AND INSTALLED BY OTHERS. BACKUP BLOWER UNIT DIMENSIONS AND LOCATIONS ARE FOR BIDDING PURPOSES ONLY. FINAL DIMENSIONS AND UNIT LOCATIONS SHALL BE COORDINATED WITH OWNER, ENGINEER AND BLOWER MANUFACTURER PRIOR TO CONSTRUCTION.
- 3 CONTRACTOR SHALL REMOVE AND REINSTALL EXISTING EMERGENCY LIGHT, CONDUIT AND CONDUCTOR SYSTEM AS NEEDED FOR THE INSTALLATION OF NEW CONDUIT SYSTEMS.
- 4 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW 12"W x 24"H x 8"D 316 STAINLESS STEEL JUNCTION BOX MOUNTED TO COLUMN AS SHOWN IN PHOTO-2. COORDINATE JUNCTION BOX LOCATION WITH OWNER AND ENGINEER PRIOR TO CONSTRUCTION. JUNCTION BOX SHALL NOT IMPEDE BRIDGE CRANE OPERATIONS.
- 5 CONTRACTOR SHALL ROUTE FLOOR MOUNTED CONDUIT ADJACENT TO BLOWER UNIT AND PIPING TO ELIMINATE TRIPPING HAZARD. COORDINATE CONDUIT ROUTING WITH OWNER AND ENGINEER PRIOR TO CONSTRUCTION.
- 6 CONTRACTOR SHALL INSTALL BACKUP BLOWER UNIT CONTROL PANEL, PROVIDED BY OTHERS, MAINTAIN A MINIMUM OF 4FT IN FRONT OF CONTROL PANEL. BACKUP BLOWER CONTROL PANEL DIMENSIONS AND LOCATIONS ARE FOR BIDDING PURPOSES ONLY. FINAL DIMENSIONS AND CP LOCATIONS SHALL BE COORDINATED WITH OWNER, ENGINEER AND BLOWER MANUFACTURER PRIOR TO CONSTRUCTION.
- 7 CONTRACTOR SHALL PROVIDE AND INSTALL A NEW 18"W x 24"H x 8"D 316 STAINLESS STEEL JUNCTION BOX MOUNTED TO COLUMN AS SHOWN IN PHOTO-2. COORDINATE JUNCTION BOX LOCATION WITH OWNER AND ENGINEER PRIOR TO CONSTRUCTION.

NO	DATE	REVISION	BY	NO	DATE	REVISION	BY

HILLERS ELECTRICAL ENGINEERING, INC.
23257 STATE ROAD 7, SUITE 100
BOCA RATON, FLORIDA 33428
(561) 451-9165
(561) 451-4886 FAX
LICENSE NO. EB 0006877

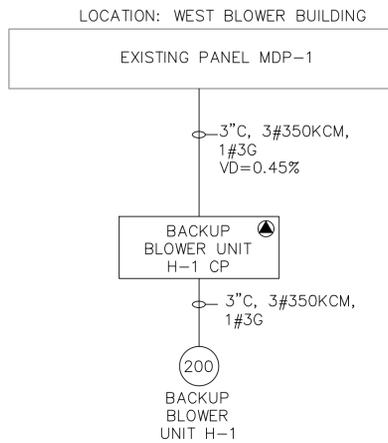
**CITY OF PEMBROKE PINES
WWTP - WEST BACKUP BLOWERS
PEMPROKE PINES, FLORIDA**

**WEST BLOWER BUILDING
ELECTRICAL PLAN**

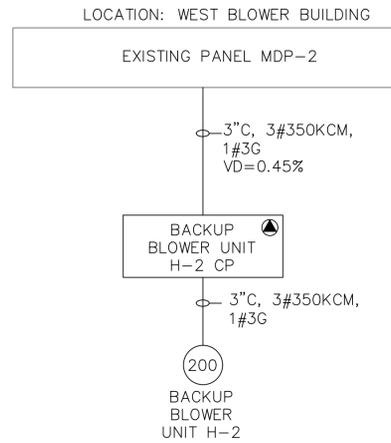
JAMES W. KAPPES, P.E.
STATE OF FLORIDA PROFESSIONAL ENGINEER
LICENSE NO. 71499
DATE: APRIL 2019

SCALE
3/8" = 1'-0"
PROJECT No
PP10

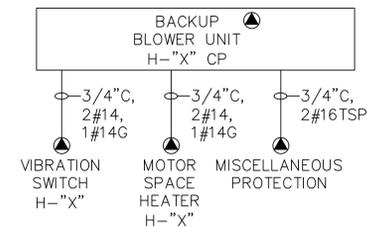
SHEET
E-2



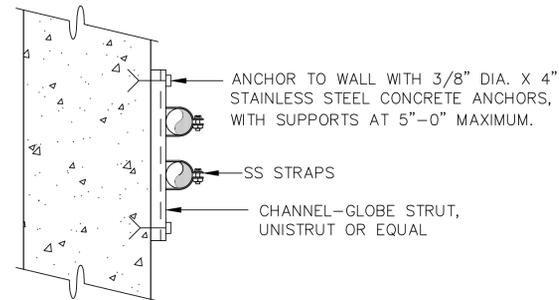
PARTIAL PANEL MDP-1 RISER DIAGRAM
SCALE: NONE



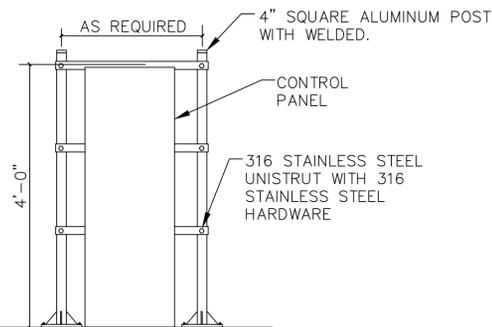
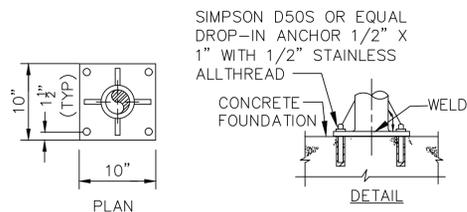
PARTIAL PANEL MDP-2 RISER DIAGRAM
SCALE: NONE



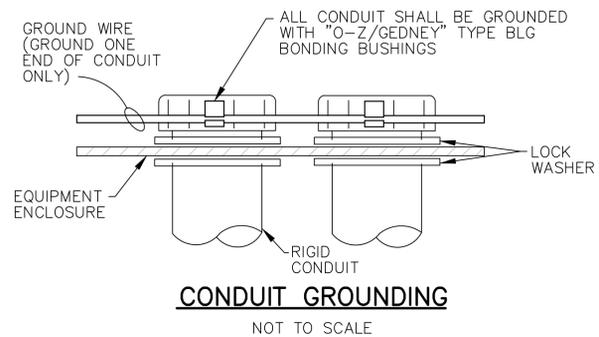
BACKUP BLOWER UNIT H-"X" CONTROL RISER
SCALE: NONE
X=1,2



TYPICAL CONDUIT SUPPORT
NOT TO SCALE



CONTROL PANEL PEDESTAL
NOT TO SCALE



CONDUIT GROUNDING
NOT TO SCALE

EXISTING PANEL SCHEDULE "MDP-1"

BUS AMPS			LOAD	POLE	AMPS	BUS			AMPS	POLE	LOAD	BUS AMPS			
A	B	C				A	B	C				A	B	C	
			SPACE			1			2	15	3	CLARIFIER #4	1.1		
			SPACE			3			4					1.1	
			SPACE			5			6						1.1
240.0			BACKUP BLOWER UNIT H-1	3	350	7			8	15	3	SCUM SPRAY #4	4.8		
	240.0					9			10						4.8
						11			12						
						13			14	15	3	SPARE			
						15			16						
						17			18						
332.4			WEST BLOWER UNIT #4	3	400	19			20			SPACE			
	332.4					21			22			SPACE			
						23			24			SPACE			
332.4			WEST BLOWER UNIT #3	3	400	25			26			SPACE			
	332.4					27			28			SPACE			
						29			30			SPACE			

RUNNING TOTAL AMPS: BUS A670.7 BUS B670.7 BUS C670.7 CONNECTED Kva_556.9
 CONNECTED TOTAL AMPS: BUS A910.7 BUS B910.7 BUS C910.7 CONNECTED Kva_756.2
 RATED VOLTAGE: 120/208 277/480 3 PHASE, 3 WIRE BRANCH POLES 12 18 30 42
 RATED AMPS: 100 225 400 1200 CABINET: SURFACE FLUSH
 NEUTRAL BUS 100% 150% 200% GROUND BUS HINGED DOOR KEYED DOOR LATCH LOCATION: WEST BLOWER BUILDING
 CIRCUIT BREAKER (BOLT-IN) BRANCH DEVICES SPD ENCLOSURE TYPE NEMA 1 NEMA 3R NEMA 4X _____
 MAIN LUGS ONLY MAIN _____ AMPS BREAKER _____ TO BE GFI BREAKERS
 PANELBOARD MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 18,000 AMPS SYMMETRICAL.
 EXISTING MANUFACTURER: SQUARE D I-LINE COPPER BUSSES MAIN LUGS _____ SETS SIZE: _____

EXISTING PANEL SCHEDULE "MDP-2"

BUS AMPS			LOAD	POLE	AMPS	BUS			AMPS	POLE	LOAD	BUS AMPS			
A	B	C				A	B	C				A	B	C	
			SPACE			1			2	15	3	CLARIFIER #3	1.1		
			SPACE			3			4					1.1	
			SPACE			5			6						1.1
240.0			BACKUP BLOWER UNIT H-2	3	350	7			8	15	3	SCUM SPRAY #3	4.8		
	240.0					9			10						4.8
						11			12						
						13			14			SPACE			
						15			16			SPACE			
						17			18			SPACE			
332.4			WEST BLOWER UNIT #1	3	400	19			20			SPACE			
	332.4					21			22			SPACE			
						23			24			SPACE			
332.4			WEST BLOWER UNIT #2	3	400	25			26			SPACE			
	332.4					27			28			SPACE			
						29			30			SPACE			

RUNNING TOTAL AMPS: BUS A670.7 BUS B670.7 BUS C670.7 CONNECTED Kva_556.9
 CONNECTED TOTAL AMPS: BUS A910.7 BUS B910.7 BUS C910.7 CONNECTED Kva_756.2
 RATED VOLTAGE: 120/208 277/480 3 PHASE, 3 WIRE BRANCH POLES 12 18 30 42
 RATED AMPS: 100 225 400 1200 CABINET: SURFACE FLUSH
 NEUTRAL BUS 100% 150% 200% GROUND BUS HINGED DOOR KEYED DOOR LATCH LOCATION: WEST BLOWER BUILDING
 CIRCUIT BREAKER (BOLT-IN) BRANCH DEVICES SPD ENCLOSURE TYPE NEMA 1 NEMA 3R NEMA 4X _____
 MAIN LUGS ONLY MAIN _____ AMPS BREAKER _____ TO BE GFI BREAKERS
 PANELBOARD MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 18,000 AMPS SYMMETRICAL.
 EXISTING MANUFACTURER: SQUARE D I-LINE COPPER BUSSES MAIN LUGS _____ SETS SIZE: _____

NOTES:

- BACKUP BLOWER UNITS H-1 AND H-2 ARE FOR EMERGENCY OPERATIONS ONLY SHOULD ONE OF THE THE EXISTING BLOWER UNITS FAIL TO OPERATE. BOTH H-1 AND H-2 BLOWERS WILL BE MANUALLY OPERATED. THUS, THE EXISTING ELECTRICAL DEMAND REMAINS UNCHANGED.
- CONTRACTOR SHALL PROVIDE AND INSTALL A NEW CIRCUIT BREAKER AS SHOWN. BREAKER SHALL BE PER THE EXISTING MANUFACTURER AND MATCH EXISTING AIC RATING.
- CONTRACTOR SHALL PROVIDE STARTUP ASSISTANCE AS DESCRIBED IN SPECIFICATION 16010.

File Name: E:\PROJECTS\PP\PP10\img\ba\PP10E03 - ELECTRICAL RESEER.dwg - (Plotted by: Kappes, James on Wednesday, April 17, 2019 4:52:45 PM)

HILLERS ELECTRICAL ENGINEERING, INC.
 23257 STATE ROAD 7, SUITE 100
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 (561) 451-9165
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**CITY OF PEMBROKE PINES
 WWTP - WEST BACKUP BLOWERS
 PEMBROKE PINES, FLORIDA**

**ELECTRICAL RISER DIAGRAMS,
 SCHEDULES AND DETAILS**

JAMES W. KAPPES, P.E.
 STATE OF FLORIDA PROFESSIONAL ENGINEER
 LICENSE NO. 71499
 DATE: APRIL 2019

SCALE: NONE
 PROJECT NO: PP10

E-3

[Vendor view of bid](#)

[Chat](#) | [Bid Comments](#) | [Documents](#) | [Attachments](#) | [Items](#) | [Addendums](#)

Bid #PSEN-19-04 - Wastewater Treatment Plant West Blower Building Electrical Modification     

Time Left	Bid has ended.		
Bid Started	May 7, 2019 8:39:42 PM EDT	Notifications	Report (Bidder Activity)
Bid Ended	This bid closed on Jul 23, 2019 2:00:00 PM EDT	# of suppliers that viewed	103  (View)
Agency Information	City of Pembroke Pines, FL (view agency's bids)	Q & A	Questions & Answers Questions: 1 Q&A Deadline: Jul 8, 2019 8:30:00 PM EDT
Bid Classifications	Classification Codes		
Required Vendor Qualifications	PP-SWORN, PP-LOCAL, PP-VOSB, PP-DRUGFREE, PP-SCRUTINIZED, PP-W9, PP-VENDORINFO, PP-EQUAL, PP-LBTR		
Bid Regions	Regions		
Bid Contact	see contact information		
Pre-Bid Conference(s)	May 13, 2019 10:00:00 AM EDT Attendance is mandatory Location: Wastewater Treatment Plant 13955 Pembroke Rd, Pembroke Pines, FL 33029 Transcript Attendance		
	Jul 2, 2019 10:00:00 AM EDT Attendance is mandatory Location: Wastewater Treatment Plant 13955 Pembroke Rd, Pembroke Pines, FL 33029		
	All vendors will be required to complete Attachment G "Mandatory Pre-Bid Meeting Form" at the meeting and submit it as part of their proposal to show proof of attendance to the mandatory meeting. Transcript Attendance		
Copy Bid	Click here to copy the bid and relist it as a new bid		
View Rules	Click here to change the rules for this bid.		
Best and Final Offer:	Create		

Approval

View Approval Flow [View Approval Flow](#)
Approval Status Approved

Bid Comments

Contract Duration One Time Purchase
Contract Renewal Not Applicable
Prices Good for 90 days
Budgeted Amount \$0.00 ([change](#))
Standard Disclaimer Bids/proposals must be submitted electronically

Please note vendors should be registered on BidSync under the name of the organization that they are operating as and it should match the organization name on the documents that they are submitting and utilizing when responding to the solicitation. The vendor must provide the necessary information on the BidSync website and upload all of the requested documents listed in the PROPOSAL REQUIREMENTS section of this solicitation. Unless otherwise specified, the City requests for vendors to upload their documents as one (1) PDF document in the order that is outline in the bid package.

The City recommends for proposers to submit their proposals as soon as they are ready to do so. Please allow ample time to submit your proposals on the BidSync website. Proposals may be modified or withdrawn prior to the deadline for submitting Proposals. BidSync Support is happy to help you with submitting your proposal and to ensure that you are submitting your proposals correctly, but we ask that you contact their support line at 1-800-990-9339 with ample time before the bid closing date and time.

PLEASE DO NOT SUBMIT ANY PROPOSALS VIA MAIL, E-MAIL OR FAX.

However, please note that any required Bid Bond or Cashier's Check should be in a sealed envelope, plainly marked "BID SECURITY" (with the Solicitation Number and Title) and sent to the City of Pembroke Pines, City Clerk's Office, 4th Floor, 601 City Center Way, Pembroke Pines, FL 33025.

Bid Comments

The City of Pembroke Pines is seeking proposals from qualified firms to do an electrical modification to the City's Wastewater Treatment Plant West Blower building to accommodate two 200HP air blowers per the plans & specifications provided by Hillers Electrical Engineering Inc. Please see Attachments I through M.

Added on May 23, 2019:

Please review Addendum #1 and the revised solicitation document that has been uploaded. There will be a second Mandatory Pre-Bid Meeting, and thus, a new deadline for questions and a new due date for proposals.

Documents Select All | Select None | Download Selected

<input type="checkbox"/> 1. REVISED PSEN-19-04 Wastewater Treatment Plant West Blower Building Electrical Modification.pdf [download]	<input type="checkbox"/> 2. Attachment A - Contact Information Form.docx [download]
<input type="checkbox"/> 3. Attachment B - Non-Collusive Affidavit [download]	<input type="checkbox"/> 4. Attachment C - Proposers Qualifications Statement [download]
<input type="checkbox"/> 5. Attachment D - Sample Insurance Certificate.pdf [download]	<input type="checkbox"/> 6. Attachment E - Specimen Contract - Construction Agreement 2018-10-25.pdf [download]
<input type="checkbox"/> 7. Attachment F - References Form [download]	<input type="checkbox"/> 8. Attachment G - Mandatory Pre-Bid Site Visit Confirmation.pdf [download]
<input type="checkbox"/> 9. Attachment H - Standard Release of Lien.pdf [download]	<input type="checkbox"/> 10. Attachment I - 16010 Basic Electrical Requirements.pdf [download]
<input type="checkbox"/> 11. Attachment J - 16050 Basic Electrical Materials and Methods.pdf [download]	<input type="checkbox"/> 12. Attachment K - 16110 Raceways.pdf [download]
<input type="checkbox"/> 13. Attachment L - 16120 Conductors.pdf [download]	<input type="checkbox"/> 14. Attachment M - WWTP Blower Building Electrical Plans.pdf [download]
<input type="checkbox"/> 15. PSEN-19-04 Addendum 1.pdf [download]	<input type="checkbox"/> 16. PSEN-19-04 - Mandatory Pre-Bid Attendance Sheet - 07.02.2019.pdf [download]

= Included in Bid Packet = Excluded from Bid Packet

Items

Item	Title	Offers
PSEN-19-04-01-01	Project Cost	Y Info
PSEN-19-04-01-02	Cost to Provide Payment and Performance Bond	Y Info

Addendum #1 - Made On May 23, 2019 3:11:13 PM EDT

Description/Bid Comments (Information was added)

New Documents REVISD PSEN-19-04 Wastewater Treatment Plant West Blower Building Electrical Modification.pdf
PSEN-19-04 Addendum 1.pdf

Removed Documents PSEN-19-04 Wastewater Treatment Plant West Blower Building Electrical Modification.pdf

Previous End Date Jun 4, 2019 2:00:00 PM EDT	New End Date Jul 23, 2019 2:00:00 PM EDT
Previous Q & A End Date May 20, 2019 8:30:00 PM EDT	New Q & A End Date Jul 8, 2019 8:30:00 PM EDT

Conference on Jul 2, 2019 10:00:00 AM EDT as been added

Change Made On Jul 2, 2019 4:35:20 PM EDT

New Documents PSEN-19-04 - Mandatory Pre-Bid Attendance Sheet - 07.02.2019.pdf

There are no advertisements on this solicitation.

Questions? Contact a BidSync representative: 800-990-9339 or email: support@bidsync.com

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Question and Answers for Bid #PSEN-19-04 - Wastewater Treatment Plant West Blower Building Electrical Modification

[Create New Question](#)

Question Deadline: Jul 8, 2019 8:30:00 PM EDT

Overall Bid Questions

Question 1

Is this offer also available to non veteran owned business's? We meet all of the other requirements except this one. thanks (Submitted: May 30, 2019 11:43:18 AM EDT)

Answer

[edit](#) 

- Being a Veteran-owned business is not a requirement; this Invitation to Bid is open to any and all prospective vendors. (Answered: Jun 17, 2019 9:19:21 AM EDT)

Add to Answer:

[Submit](#)

Questions? Contact a BidSync representative: 800-990-9339 or email: support@bidsync.com