TOWN OF JUPITER
UTILITIES

COPY



Executed Contract

UNIT PRICE CONTRACT FOR STORMWATER UTILITY INFRASTRUCTURE REPAIRS

S1628
June 2016

TODD R. WODRASKA	MAYOR
ILAN KAUFER	VICE-MAYOR
JIM KURETSKI	COUNCILOR
WAYNE POSNER	COUNCILOR
RON DELANEY	COUNCILOR
ANDREW D. LUKASIK	TOWN MANAGER
DAVID L. BROWN	DIRECTOR OF UTILITIES

TOWN OF JUPITER
UNIT PRICE CONTRACT FOR
STROMWATER UTILITY INFRASTRUCTURE REPAIRS
(S1628)

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TOWN OF JUPITER UTILITIES
UNIT PRICE CONTRACT FOR
STORMWATER UTILITY INFRASTRUCTURE REPAIRS
(S1628)

TECHNICAL SPECIFICATIONS

SECTION	TITLE
DIVISION 1 – GENERAL REQUIREMENTS	
01010	Summary of Work
01025	Measurement and Payment
01030	Hurricane Preparedness
01090	Reference Standards
01200	Project Meetings
01300	Submittals
01400	Quality Control
01500	Construction Considerations
01510	Temporary Utilities
01520	Maintenance of Facilities and Sequence of Construction
01530	Protection of Existing Facilities
01550	Site Access and Storage
01560	Temporary Environmental Controls
01570	Traffic Regulations and Maintenance of Traffic
01600	Equipment and Materials
01700	Project Closeout
DIVISION 2 – SITE WORK	
02110	Clearing and Grubbing
02222	Excavation and Backfill for Utilities
02500	Surface Restoration
02510	Asphaltic Concrete Pavement
02574	Pavement Removal and Replacement
02580	Pavement Marking and Traffic Signs
02750	Portland Cement Concrete Paving
02751	Preparatory Cleaning and Root Removal
02752	Stormwater Flow Control
02753	Television Survey
02754	Storm Sewer Inlets and Manholes
02934	Sodding
DIVISION 3 – CONCRETE	
03305	Concrete and Grout
03480	Precast Concrete Manholes, Handholes, Vaults
DIVISION 4 – DIVISION 14	
Not Used	

DIVISION 15 – MECHANICAL
15002 Reinforced Concrete Pipe

DIVISION 16 – DIVISION 17
Not Used

APPENDIX
Stormwater Construction Details SW-1 to SW-20

ADDENDUM NO. 1
TO
CONTRACT DOCUMENTS

June 29, 2016

PROJECT TITLE: TOWN OF JUPITER
UNIT PRICE CONTRACT FOR STROMWATER UTILITY
INFRASTRUCTURE REPAIRS (S1628)

TO: All Plan Holders of Record

This addendum forms a part of the Contract Documents and modifies the original Project Documents as noted below. **Acknowledge receipt of this Addendum in the space provided on the Bid Proposal form.**

IN THE TECHNICAL SPECIFICATIONS

SECTION 02757 POINT REPAIR OF STORM SEWERS

DELETE Section 02757 Point Repair of Storm Sewers in its entirety.

SECTION 02762 CHEMICAL ROOT TREATMENT

DELETE Section 02762 Chemical Root Treatment in its entirety.

SECTION 02763 CHEMICAL GROUTING

DELETE Section 02763 Chemical Grouting in its entirety.

SECTION 02764 CURED-IN-PLACE SECTIONAL PIPE LINING

DELETE Section 02764 Cured-In-Place Sectional Pipe Lining in its entirety.

SECTION 02765 INTERNAL JOINT SEAL

DELETE Section 02765 Internal Joint Seal in its entirety.

SECTION 02766 SPIRAL WOUND PIPE LINER

DELETE Section 02766 Spiral Wound Pipe Liner in its entirety.

SECTION 02768 SLIP LINING PIPE SYSTEM

DELETE Section 02768 Slip Lining Pipe System in its entirety.

END OF ADDENDUM 1

ADDENDUM NO. 2
TO
CONTRACT DOCUMENTS

July 12, 2016

PROJECT TITLE: TOWN OF JUPITER
UNIT PRICE CONTRACT FOR STROMWATER UTILITY
INFRASTRUCTURE REPAIRS (S1628)

TO: All Plan Holders of Record

This addendum forms a part of the Contract Documents and modifies the original Project Documents as noted below. **Acknowledge receipt of this Addendum in the space provided on the Bid Proposal form.**

GENERAL

PRE-BID MEETING

A pre-bid meeting for this project was held on July 7th, 2016, the meeting minutes and attendance list is included as part of this addendum.

IN THE FRONT END DOCUMENTS

INSTRUCTIONS TO BIDDERS

Article 28, Paragraph 28.1

DELETE Paragraph 28.1 in its entirety and **REPLACE** it with the revised Paragraph 28.1 as follows:

28.1 No guarantee is expressed or implied as to the total quantity of commodities/services to be purchased under any open end Contract. Estimated quantities will be used for Bid comparison purposes only. The Owner reserves the right to issue Work Orders as and when required for proposed work for any or all bid items or any combination thereof. Work under this Contract is subject to fiscal appropriation by the Jupiter Town Council in either or both the Town's Community Investment Program (CIP) and fiscal year operating budgets. Estimated funding budgets anticipated being available for the original two year contract term and subsequent two year and one year renewal terms are provided in the table below.

Anticipated Estimated Annual Funding

Town of Jupiter Utilities

Unit Price Contract for Stormwater Utility Infrastructure Repairs (S1628)

Year	Project Description	Estimated Value
2016/2017	Miscellaneous Stormwater Repairs	$200,000
2017/2018	Miscellaneous Stormwater Repairs	$200,000
	Estimated Initial 2 Year Contract Term Total	**$400,000**
2018/2019	Miscellaneous Stormwater Repairs	$200,000
2019/2020	Miscellaneous Stormwater Repairs	$200,000
	Estimated 2 Year Contract Term Extension Total	**$400,000**
2020/2021	Miscellaneous Stormwater Repairs	$200,000
	Estimated 1 Year Contract Term Extension Total	**$200,000**
	Estimated 5 Year Total	**$1,000,000**

The Town's fiscal calendar runs from October 1st through September 30th.

BID PROPOSAL – SCHEDULE OF VALUES

DELETE the Schedule of Values in its entirety and **REPLACE** it with the revised Schedule of Values included in this Addendum.

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Pre-Bid Meeting Agenda
July 7, 2011 at 1:30 PM

S16-28
Unit Price Contract for Stormwater
Utility Infrastructure Repairs

Location: Town of Jupiter Emergency Operations Center
3133 Washington Street
Jupiter, Florida 33458

I. Sign-In Sheet

A sign-in sheet will be circulated. All attendees please sign in.

II. Introductions

Brad Wagner – Town of Jupiter Utilities Senior Engineer
Rodney Carroll – Town of Jupiter Stormwater Supervisor
David Rotar – Town of Jupiter Utility Services Manager
Other Attendees

III. DemandStar

The Town will review the process for obtaining bid documents for the project by reading the following:

Plans and Specifications must be obtained through Demandstar. Plans and specifications can be downloaded for $5.00 from Demandstar by signing up for a free agency subscription for the Town of Jupiter at www.demandstar.com. Hard copies of bid documents may also be purchased from Demandstar by visiting www.demandstar.com. If you have any difficulty with Demandstar you may contact Brittany George at (561)741-2270.

Complete sets of Bidding Documents shall be used in preparing Bids' neither Owner nor Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

In accordance with the Contract Documents, all bidders must be plan holders listed on Demandstar. Only bids from plan holders on Demandstar will be consider for award of this project.

IV. Bid Opening

Sealed bids must be delivered to the Town of Jupiter at the office of the **Town Clerk**, 210 Military Trail up to 2:00 pm on Tuesday, July 26, 2016. Bids received after this time will not be accepted. Bids will be publicly opened and read aloud in the Town Council Chambers.

V. Questions Concerning the Bid

All questions pertaining to the specifications must be submitted **in writing** to Brad Wagner, Senior Utilities Engineer (fax 561-746-2792 or email bradw@jupiter.fl.us). Questions received less than three days prior to the date for opening Bids will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

If questions are emailed and you do not receive a response to your question within 24 hours please call Brad at 561-741-2589 there is a chance that your email was held up in the Town's spam filter.

VI. Bid Security

Bid security in the amount of **5**% of $400,000.00 ($20,000.00) is required to be submitted with all bids.

VII. Contractor Qualifications

- The successful bidder must hold a Town of Jupiter occupational license.
- **The successful bidder must be a licensed General Contractor or a licensed Underground Utility and Excavation Contractor in the State of Florida.**
- The successful bidder must have completed and submitted both the Safety Qualification Form and the Bidder's Qualification Form with their bid.
- Contractor must perform a minimum of 60% of the work of this contract with his/her own forces.
- If the Bidder proposes to utilize a Subcontractor(s) for any components of work under this contract they shall provide the name, address, qualifications and license of their proposed Subcontractor(s) on separate sheets.
- The successful bidder must have past projects of similar type and magnitude that have been completed within budget and on schedule, that past projects have been managed professionally and construction quality and field supervision are professional and of best industry practice.

VIII. Contract Duration

The contract duration is as follows:
Substantial completion is **730** calendar days beginning on the date of Notice to Proceed and for final completion is **730** calendar days beginning on the date of Notice to Proceed.

IX. Permits

The work associated with this contract is maintenance work and is not subject to Town or County drainage permit requirements. All work must meet federal, county and local safety standards including but not limited to meeting the OSHA Trench Safety, Town of

Jupiter's NPDES requirements, applicable maintenance of traffic requirements, hurricane preparedness and other miscellaneous permit requirements. In the even work does not require a Town or County Permit, Owner will assist Contractor with preparing and submitting Engineering drawings/plans and permit applications.

Miscellaneous permits required to be obtained and paid for by the contractor include: tree removal permits, dewatering permits, NPDES NOI permits, maintenance of traffic approvals.

X. Project Description

Provide stormwater utility infrastructure repairs, replacements and/or installations on an as needed basis utilizing one or a combination of a number of unit price bid items. These items may include, but are not limited to: bypass pumping; realigning or replacing inlet/manhole castings; sealing and/or grouting stormwater pipe joints; new manholes/conflict boxes/catch basins; pipe to structure connection repairs; point repairs on stormwater pipes; and restoring miscellaneous surface improvements such as asphalt roadway replacement, pavement overlay, concrete sidewalk replacement, concrete curb and gutter replacement, sod replacement, fence replacement and other improvements as described by the project documents.

XI. Contract Administration

The Town of Jupiter will be performing the contract administration and field observation services on this project.

- The Contractor may use TOJ Right-of-Way for staging, storage and laydown areas; these areas must be kept out of vehicular clear zones and not impede any sight visibility triangles.
- During construction, trench safety must carefully be monitored during all phases of the project. The Bidder will be required to complete and submit all the required forms concerning trench safety and include them with their bid.
- There will be no charge to the Contractor for water usage associated with this Contract unless it is determined by the Owner that the Contractor is being wasteful with the water. It is the Contractor's responsibility to purchase and obtain a temporary hydrant meter from the Jupiter Utilities Department.

XI. Supplementary Conditions

- The General Conditions have been modified to allow the Town of Jupiter to perform certain aspects of the contract administration and field observation services on this project.

XII. Other Items Discussed

Question was asked if the Bid Bond was to be based on $200K?
Ans. Town said it was based upon the first term of the contract which is two years. (Bid Bond would be 5% of $400,000.00 as stated in the front ends of the contract.)

Question was asked if the curb and gutter bid included material?
Ans. Town replied yes the bid would include material.

Question was asked regarding section 1.1 removing existing pipe at the contractors expense.
Ans. Town replied that it would look and clarify if this should be included or use time plus documented expenses for disposal.

Question was asked if MOT would be billed as cost plus 5%?
Ans. Town replied yes that is correct.

cc: Demandstar
Amanda Barnes/Brad Wagner/JW 10-37 Meeting Minutes File
Meeting Attendees

Town of Jupiter Utilities
Unit Price Contract for Stormwater Utility Infrastructure Repairs (S1628)

Non-Mandatory Pre-Bid Meeting Sign-In Sheet
July 7, 2016
1:30 PM

	Name	Company Name	Phone Number	Email Address
1	Brad Wagner	Town of Jupiter	561-741-2589	bradw@jupiter.fl.us
2	David Rotar	Town of Jupiter	561-741-2701	davidr@jupiter.fl.us
3	Rodney Carroll	Town of Jupiter	561-262-6023	Rodney@jupiter.fl.us
4	Van Williams	Deeran INC	561-844-8348	Van@deeraninc.com
5	Scott Johnson	Johnson-Davis Inc	561 588 1170	bvito@johnsondavis.com
6	Louis J. Woska	Shenandoah Const.	954-975-0098	margaret.mary@shenandoahconstruction.com
7	John Sunderman	Layne Inliner, LLC	386-279-9412	john.sunderman@layne.com
8	Bill Clark	F.H.R. Ferreira	727-505-9455	W.Clark@FerreiraConstruction.com
9	Ron Rossi	D.S. Eakins	561-842-0001	Ron@DSEakins.com
10	Larry Roof	Felix Associates of Florida	772-220-2722	LRoof@FelixAssociates.Net
11				
12				
13				
14				
15				

V:\Utilities\Water\Mngmt\CIP Projects\16-XX\16-28 Unit Price Contract for SW Utility Infrastructure Repairs\Meeting Minutes\Pre-Bid Meeting\S1628 Pre Bid Sign in sheet.docx

STORMWATER UTILITY INFRASTRUCTURE REPAIRS
(S1628)

Bid Schedule of Values – Addendum 2

Item No.	Item Description	Estimated Quantity	Unit	Unit Price	Total Amount
	Bid Items:				
1	Indemnification	1	LS	$ 100.00	$ 100.00
2	Bonds and Insurance	1	LS	$	$
3	4 Man Underground Construction Crew	1	HR	$	$
4	Overtime Multiplier for 4 Man Underground Crew, (Total Amount = ____% x Bid Item No. 3)	MULT.	%	%	$
5	Combined Backhoe Loader with Operator	1	HR	$	$
6	Hydraulic Excavator with Operator	1	HR	$	$
7	Dewatering with 4" Hydraulic Pump	1	HR	$	$
8	Dewatering with Well Points	1	DAY	$	$
9	Asphalt Road Repair	1	SY	$	$
10	Asphalt Driveway Apron	25	SY	$	$
11	Concrete Driveway Apron Replacement	25	SY	$	$
12	Paver Driveway Repair	120	SF	$	$
13	Concrete Sidewalk	4	SY	$	$
14	Valley Curb	3	LF	$	$
15	Type D Curb	3	LF	$	$
16	Bahia Sod	20	SY	$	$
17	Saint Augustine Sod	20	SY	$	$
				Total Bid Price: (Item Nos. 1-17)=	$

Total Bid in Words: _____

_____

END OF ADDENDUM 2

ADDENDUM NO. 3
TO
CONTRACT DOCUMENTS

July 14, 2016

PROJECT TITLE: TOWN OF JUPITER
UNIT PRICE CONTRACT FOR STROMWATER UTILITY
INFRASTRUCTURE REPAIRS (S1628)

TO: All Plan Holders of Record

This addendum forms a part of the Contract Documents and modifies the original Project Documents as noted below. **Acknowledge receipt of this Addendum in the space provided on the Bid Proposal form.**

GENERAL

PRE-BID MEETING MINUTES

SECTION III. DEMANDSTAR, PARAGRAPH 2

DELETE the first sentence of Section III. Demandstar, Paragraph 2 and **REPLACE** it with the revised sentence as follows:

Plans and Specifications may be obtained through Demandstar.

SECTION III. DEMANDSTAR, PARAGRAPH 4

DELETE paragraph 4 of Section III. Demandstar in its entirety.

IN THE FRONT END DOCUMENTS

INSTRUCTIONS TO BIDDERS

BID PROPOSAL – SCHEDULE OF VALUES

DELETE the Schedule of Values in its entirety and **REPLACE** it with the revised Schedule of Values included in this Addendum.

IN THE TECHNICAL SPECIFICATIONS

SECTION 01025 MEASUREMENT AND PAYMENT

DELETE Section 01025 Measurement and Payment in its entirety and **REPLACE** it with the revised Section 01025 Measurement and Payment included in this Addendum.

TOWN OF JUPITER
UNIT PRICE CONTRACT FOR
STORMWATER UTILITY INFRASTRUCTURE REPAIRS
(S1628)

Bid Schedule of Values – Addendum 3

Item No.	Item Description	Estimated Quantity	Unit	Unit Price	Total Amount
	Bid Items:				
1	Indemnification	1	LS	$ 100.00	$ 100.00
2	Bonds and Insurance	1	LS	$	$
3	4 Man Underground Construction Crew	1	HR	$	$
4	Overtime Multiplier for 4 Man Underground Crew, (Total Amount = ____% x Bid Item No. 3)	MULT.	%	%	$
5	Combined Backhoe Loader with Operator	1	HR	$	$
6	Hydraulic Excavator with Operator	1	HR	$	$
7	Dump Truck with Operator	1	HR	$	$
8	Dewatering with 4" Hydraulic Pump	1	HR	$	$
9	Dewatering with Well Points	1	DAY	$	$
10	Asphalt Road Repair	1	SY	$	$
11	Asphalt Driveway Apron	25	SY	$	$
12	Concrete Driveway Apron Replacement	25	SY	$	$
13	Paver Driveway Repair	120	SF	$	$
14	Concrete Sidewalk	4	SY	$	$
15	Valley Curb	3	LF	$	$

16	Type D Curb	3	LF	$_____	$_____
17	Bahia Sod	20	SY	$_____	$_____
18	Saint Augustine Sod	20	SY	$_____	$_____

Total Bid Price: (Item Nos. 1-18)= $_____

Total Bid in Words: _____

_____

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1. 01 GENERAL

A. SCOPE OF THIS SECTION

1. The following explanation of the Measurement and Payment for the Schedule of Payment items is provided; however, the omission or reference to any item shall not alter the intent of the Bid Form or relieve the Contractor of the necessity of constructing a complete project under this Contract.

2. The quotations prepared by the Contractor for the various items of work are intended to establish a total price for completion of the work in its entirety. Should the contractor feel that the cost for any particular work item has not been established by the Schedule of Payment items or this section, the Contractor shall include the cost for that work in one of the bid items so the proposal for the project reflects the total cost to complete the work in its entirety.

3. The Owner reserves the right to increase or decrease the quantity of any item or portion of the work during the progress of construction in accordance with the terms of the Contract.

4. Unit prices, if used, are used as a means for computing the bid, for Contract purposes, for periodic payments, for determining value of additions or deletions.

5. Payment shall be made for the items listed on the Bid Form on the basis of the work actually performed and completed, such work including but not limited to, the furnishing of all necessary labor, equipment, tools, transportation, delivery, disposal of waste and surplus material, and backfilling as described in the work order, and all other appurtenances to complete the construction and installation of the work as described in the work order.

1.02 SUBMITTALS

A. Project Unit Costs and Payment Information:
   1. Work Order Proposals
   2. Application for Payments
   3. Final Application for Payment

B. Submittals shall be in accordance with Section 01300.

1.03 APPLICATION FOR PAYMENT

A. Include accepted schedule of values for each portion of work and the unit price breakdown for the work to be paid on a unit price basis, and a listing of Owner selected equipment, if applicable, and allowances, as appropriate.

B. Preparation:
   1. List each Change Order and Written Amendment executed prior to date of submission as a separate line item.
   2. Submit application for payment, a listing of materials on hand as applicable, and such supporting data as may be requested by the Owner.
   3. Include Owner's Application for Payment Cover Sheet and partial or full releases of liens, as appropriate, for all subcontractors, suppliers, and Contractor.

PART 2 – PRODUCTS

2.01 GENERAL

A. Contractor shall coordinate with Owner for suitable locations to store Owner purchased materials under this Contract. Contractor shall coordinate with Owner and be responsible to transport Owner furnished materials from the Town's storage facility located at the Town's Emergency Operations Center (EOC) to the job site, if necessary.

B. Costs for Mobilization, Demobilization, Maintenance of Traffic, sediment control/pollution prevention, project record drawings and Contractor General Conditions for individual work orders will be negotiated based on the scope of each work order, and shall not exceed 10% of the sum of the work order line items, excluding this item.

C. For all non-emergency work orders the contractor will be required to submit a material list with prices from two separate vendors to the Town's representative. The Town may direct purchase the materials from the lowest vendor or pay the Contractor a 15% mark-up on the cost of the materials for the Contractor to supply them. In either situation, it will be the Contractor's responsibility to provide material quantities, take receipt of delivery, schedule and all coordination with the vendor.

D. Cost of maintenance of traffic (MOT) shall be provided within the individual work order proposal with supporting documentation. Allowable markup on sub-contracted MOT is 5%.

2.02 ITEM DESCRIPTIONS

A. **INDEMNIFICATION** (Bid Item No. 1)
In recognition of Contractor's indemnification obligations, the Owner will pay to the Contractor the specific consideration of one hundred dollars ($100.00). Payment of said specific consideration shall be made at the time of the payment of the first Work Order and the Contractor shall acknowledge payment of this consideration by letter to the Owner after receipt of the progress payment.

B. **BONDS AND INSURANCE** (Bid Item No. 2)
The Work included in this Item shall be the actual costs of bonds and any required insurance as outlined in the Contract Documents. Payment of bonds and insurance shall be made on the first Application of Payment of each work order. Contractor shall provide Owner with written documentation from bonding and insurance companies indicating actual costs for bonds and insurance for this project.

C. **4 MAN UNDERGROUND CONSTRUCTION CREW** (Bid Item No. 3)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision of a 4 Man Underground Construction Crew at the direction of the Town to perform miscellaneous utility infrastructure maintenance, repairs, and/or improvements. All work shall be performed in accordance with permitted regulatory agency requirements and meet the appropriate jurisdictional standards which include but are not limited to FDEP, Palm Beach County Health Dept., Town of Jupiter, Palm Beach County, Martin County, and any other permitting entity applicable to the work proposed. This pay item shall include but not be limited to full compensation for furnishing labor consisting of a four (4) man crew which includes foreman/operator, pipe layer and two laborers; minimum equipment consisting of 1 ton pickup truck, pipe saw, plate compactor, 3" trash pump; miscellaneous hand tools and safety equipment necessary to meet regulatory agency requirements. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. This pay item is an hourly rate charge for a 4 Man Underground Construction Crew during normal working hours. The Owner will track time and approve payment.

D. **OVERTIME MULTIPLIER FOR 4 MAN UNDERGROUND CONSTRUCTION CREW** (Bid Item No. 4)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour multiplied by the overtime multiplier for the provision of a 4 Man Underground Construction Crew at the direction of the Town to perform miscellaneous utility infrastructure maintenance, repairs, and/or improvements. All work shall be performed in accordance with permitted regulatory agency requirements and meet the appropriate jurisdictional standards which include but are not limited to FDEP, Palm Beach County Health Dept., and/or Town of Jupiter, Palm Beach County, Martin County, and any other permitting entity applicable to the proposed work. This pay item shall include but not be limited to full compensation for furnishing labor consisting of a four (4) man crew which includes foreman/operator, pipe layer and two laborers; minimum equipment consisting of 1 ton pickup truck, pipe saw, plate compactor, 3" trash pump; miscellaneous hand tools and safety equipment necessary to meet regulatory agency requirements. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. This pay item is an hourly rate charge for a 4 Man Underground Construction Crew during overtime working hours. The Owner will track time and approve payment.

E. COMBINATION BACKHOE LOADER (Bid Item No. 5)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision of a Combination Backhoe Loader which is a supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for providing a Caterpillar 461E Backhoe Loader (or equivalent size machine) to the work order site for a specified period of time and include all costs associated with delivery, pickup, maintenance, operation (including operator), insurance, and any other miscellaneous costs or fees associated with providing a safe working machine as designed by the manufacturer. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. This pay item is an hourly rate charge for the Combination Backhoe Loader. The Owner will track time and approve payment.

F. HYDRAULIC EXCAVATOR WITH OPERATOR (Bid Item No. 6)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis for the actual time the excavator with Operator is in use for the intended scope of work as agreed to in writing between Contractor and Owner. The Owner will track time and approve payment. Measurement of this item shall not include travel time for the excavator or operator to and from the site.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision and operation of a Hydraulic Excavator which is a supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for providing a Caterpillar 315D Hydraulic Excavator (or equivalent size machine) to the work order site for a specified period of time and include all costs associated with delivery, pickup, maintenance, operation (including operator), insurance, and any other miscellaneous costs or fees associated with providing a safe working machine as designed by the manufacturer. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment.

G. DUMP TRUCK WITH OPERATOR (Bid Item No. 7)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis for the actual time the dump truck with Operator is in use for the intended scope of work as agreed to in writing between Contractor and Owner. The Owner will track time and approve payment. Measurement of this item shall not include travel time for the dump truck or operator to and from the site.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision and operation of a dump truck which is a supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for providing a 20 yard dump truck to the work order site for a specified period of time and include all costs associated with delivery, pickup, maintenance, operation (including operator), insurance, and any other miscellaneous costs or fees associated with providing a safe working machine as designed by the manufacturer. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment.

H. DEWATERING WITH 4" HYDRAULIC PUMP (Bid Item No. 8)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis for the actual time the 4" hydraulic pump is in operation for the intended scope of work as agreed to between Contractor and Owner. The Owner will track time and approve payment. Measurement of this pay item will not include the time required to mobilize, set up and remove the pump and associated equipment to/from the job site.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision and operation of a 4" Hydraulic Pump which is a supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for labor, equipment, and material such as providing pump and associated equipment, fuel,

maintenance, suction and discharge piping, disposal of pump discharge, dewatering permits and any other costs associated with dewatering using a 4" hydraulic pump to assist in removing groundwater from the excavation area to an acceptable discharge location. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. Contractor shall include costs associated with dewatering with anything smaller than a 4" hydraulic pump in the 4 Man Underground Construction Crew pay item. If a 4" hydraulic pump does not provide adequate dewatering, in the opinion of the Owner, then Contractor shall dewater by well point. Owner will not pay costs associated with this Pay Item if dewatering with 4" hydraulic pump is not adequate, or efficient. Owner will not direct Contractor in what type of dewatering to use. This pay item is an hourly rate charge for the 4" Hydraulic Pump.

I. DEWATERING WITH WELL POINTS (Bid Item No. 9)

1. Method of Measurement: The quantity to be paid for under this Section shall be on a daily basis for the actual time the well point dewatering system is in operation for the intended scope of work as agreed to in writing between Contractor and Owner. The Owner will track time and approve payment. Measurement of this item will not include the time to mobilize, set up and remove the well point dewatering system to/from the job site.

2. Basis of Payment: Payment shall be made at the Contract unit price per 24 hour-day (24 hr.) for the provision of a well point system complete with suction/discharge piping and vacuum pump which is a supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for labor, equipment, and material for a complete well point dewatering system including but not limited to fuel, maintenance, suction and discharge piping, manifold header piping, dewatering permits, permitting pump discharge, disposal of pump discharge and any other costs associated with dewatering using a well point system to assist in removing groundwater from the excavation area to an acceptable discharge location. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. This pay item is an hourly rate charge for Dewatering with Well Points. If Contractor has not provided a well point dewatering system adequate to allow for repairs and/or installation of the infrastructure in accordance with Town or other applicable entity standards, Owner will not pay costs associated with this Pay Item until the Contractor has corrected the system to function properly and efficiently.

J. Asphalt Road Repair (Bid Item No. 10)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of asphalt furnished, placed and accepted.

2. Basis of Payment: The Contract Unit Price shall include full compensation for all labor, materials, and equipment necessary for asphalt repair and shall include, but not be limited to, excavation associated with subgrade preparation, base placement, grading, compaction, asphalt, placement

and all other incidentals required to perform the asphalt repair in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the road on which the asphalt repairs are being made and the Contract Documents.

K. Asphalt Driveway Apron (Bid Item No. 11)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of asphalt furnished, placed and accepted to replace/repair existing asphalt driveway aprons as needed to facilitate the Work of this Contract.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary for driveway apron replacement/repair including but not limited to, excavation of existing asphalt, disposal of excavated materials, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), subgrade preparation, base placement, compaction, asphalt, placement, and all other incidentals required to perform the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the road on which the asphalt repairs are being made and the Contract Documents. Payment does not include repair associated with damage caused by Contractor's negligence or carelessness which will be the Contractor's responsibility.

L. Concrete Driveway Apron (Bid Item No. 12)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of concrete furnished, placed and accepted to replace/repair existing concrete driveway aprons as needed to facilitate Work performed under this Contract.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary for concrete driveway apron replacements including, but not limited to excavation and disposal of existing concrete apron, concrete cutting, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), subgrade preparation, compaction, forms, reinforcing, concrete, placement, finishing, curing, protection, and all other incidentals as needed to perform the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the road on which the replacement/repairs are being made and the Contract Documents. Payment does not include repair associated with damage caused by Contractor's negligence or carelessness which will be the Contractor's responsibility. This pay item also does not include costs associated with stamped or painted concrete. If stamped or painted concrete is needed, Owner will request a price from Contractor.

M. Paver Driveway Repair (Bid Item No. 13)

1. Method of Measurement: The quantity paid for under this item shall be per square foot of paver driveway repair performed and accepted as needed to facilitate Work performed under this Contract.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary for paver driveway repairs including,

but not limited to removal of existing pavers, replacement of broken pavers, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), subgrade preparation, compaction, sand, pavers and all other incidentals as needed to perform the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the road on which the Work is done and the Contract Documents. Payment does not include repair associated with damage caused by Contractor's negligence or carelessness which will be the Contractor's responsibility. This pay item also does not include sealing the pavers. If existing pavers are sealed, Owner will request a price from Contractor.

N. Concrete Sidewalk (Bid Item No. 14)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of concrete sidewalk repaired/replaced and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to perform sidewalk repair/replacement including, but not be limited to, demolition of existing concrete sidewalk, concrete cutting, disposal of demolished concrete, preparation of subgrade, forms, reinforcement, grading (to meet ADA requirements as applicable), compaction, concrete, placement, finishing, tactile surface (where applicable) in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the area of the Work and the Contract Documents.

O. Valley Curb (Bid item No. 15)

1. Method of Measurement: The quantity paid for under this item shall be per linear foot of concrete valley curb repair/replaced and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to repair/replace concrete valley curb and shall include, but not be limited to, demolition of existing curb, disposal, concrete cutting, forming, reinforcing, grading, compaction, concrete, placement, finishing and all other incidentals necessary to complete the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction of the road on which the curb exists and the Contract Documents.

P. Type "D" Curb (Bid Item No. 16)

1. Method of Measurement: The quantity paid for under this item shall be per linear foot of concrete Type D curb repair/replaced and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to repair/replace concrete curb and shall include, but not be limited to, demolition of existing curb, disposal, concrete cutting, forming, reinforcing, grading, compaction, concrete, placement, finishing and all other incidentals necessary to complete the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction of the road on which the curb exists and the Contract Documents.

Q. Bahia Sod (Bid Item No. 17)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of sod placed and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to repair/replace sod and shall include, but not be limited to, scrapping and removal of existing sod, disposal, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), top soil, sod, placement, pinning (as needed on slopes), watering, fertilizer, establishment of healthy sod, and all other incidentals necessary to complete the Work in accordance with the standards of the Town of Jupiter and the Contract Documents and the Contract Documents.

R. Saint Augustine Sod (Bid Item No. 18)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of sod placed and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to repair/replace sod and shall include, but not be limited to, scrapping and removal of existing sod, disposal, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), top soil, sod, placement, pinning (as needed on slopes), watering, establishment of healthy sod, and all other incidentals necessary to complete the Work in accordance with the standards of the Town of Jupiter and the Contract Documents and the Contract Documents.

END OF SECTION

END OF ADDENDUM 2

TOWN OF JUPITER

INVITATION TO BID

Sealed bids will only be accepted at the Town Clerk's Department, 210 Military Trail, Jupiter, Florida 33458:

Unit Price Contract for

Stormwater Utility Infrastructure Repairs

(S1628)

Until 2:00PM, Local Time, July 26th, 2016 at which time and place all bids received will be publicly opened and read aloud in the Town Council Chambers. Sealed bids shall be submitted to the Town Clerk, on paper in accordance with the Instruction to Bidders. Bids received after the time and date specified will not be considered. The face of the envelope shall be addressed as follows:

Town Clerk
Town of Jupiter
210 Military Trail
Jupiter, FL 33458
July 26th, 2016, 2:00 PM
Unit Price Contract for Stormwater Utility Infrastructure Repairs (S1628)

The nature and scope of this project is:

Provide stormwater utility infrastructure repairs, replacements and/or installations on an as needed basis utilizing one or a combination of a number of unit price bid items. These items may include, but are not limited to: bypass pumping; realigning or replacing inlet/manhole castings; sealing and/or grouting storm water pipe joints; installing new manholes/conflict boxes/catch basins; pipe to structure connection repairs; storm water pipe point repairs; slip lining; cured in place lining; and restoring miscellaneous surface improvements such as asphalt roadway replacement, pavement overlay, concrete sidewalk replacement, concrete curb and gutter replacement, sod replacement, fence replacement and other improvements as described by the Project Documents.

Bid Documents will be available on www.Demandstar.com beginning on June 28th, 2016. Bid Documents can be downloaded for $5.00 from Demandstar by signing up for a free agency subscription for the Town of Jupiter at www.demandstar.com. Hard copies of Bid Documents may also be purchased from Demandstar by visiting www.demandstar.com or emailing demandstar@onvia.com. Payment for Bid Documents is non-refundable.

A pre-bid meeting will be held on July 7th, 2016 at 1:30 pm at the Town of Jupiter

Emergency Operations Center Conference Room located at 3133 Washington Street, Jupiter, FL 33458.

Questions concerning the bid will be answered by addendum through Demandstar.com. All questions should be directed to Brad Wagner, Senior Engineer for the Town of Jupiter, in writing, via email bradw@jupiter.fl.us (include Project Name in the subject of the email) by fax (561) 746-2792, or by mail to 17403 Central Boulevard, Jupiter, FL 33458. Email should be delivered with a Read Receipt requested to confirm successful receipt by the Town.

Bid Security in the amount of five percent (5%) of $400,000.00, (or $20,000.00) must accompany each bid in accordance with the Instructions to Bidders.

The Town of Jupiter reserves the right to waive any irregularities and to reject any and all bids. The Town of Jupiter is an equal opportunity employer.

By Order of the Town Council,
Town of Jupiter

Sally Boylan, Town Clerk

PUBLISHED: Palm Beach Post Times

DATES: June 26, 2016

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS

Terms used in these Instructions to Bidders which are defined in the Standard General Conditions of the Construction Contract, EJCDC C-700 (2002 Edition) have the meanings assigned to them in the General Conditions. The term "Successful Bidder" means the lowest, qualified, responsible Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award.

2. COPIES OF BIDDING DOCUMENTS

2.1 Complete sets of the Bidding Documents in the number and for the non-refundable sum, if any, may be obtained from www.demandstar.com as stated in the Advertisement or Invitation.

2.2 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.3 Owner in preparing Bidding Documents available on the above terms does so only for the purpose of obtaining Bids on the Work and does not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

3.1 To demonstrate qualifications to perform the Work, each Bidder must be prepared to submit within five days of Owner's request written evidence of the types set forth in the Supplementary Conditions, such as financial data, previous experience and evidence of authority to conduct business in the jurisdiction where the project is located. Each Bid must contain evidence of the Bidder's qualifications by completion of the Qualification Requirements in the Front End Documents and Bid Proposal using projects completed by the Bidder that included work similar in nature to the Work of this Contract as well as evidence of Bidder's qualification to do business in the state where the project is located or convenient to obtain such qualification prior to award of the contract.

3.2 No Bid will be accepted from, nor will any contract be awarded to any person who is in arrears to the Owner, upon any debt or contract, or who is a defaulter, as surety or otherwise, upon any obligation to Owner, or any other governmental agency or entity, or who is deemed responsible or unreliable by the Owner.

3.3 No Bid will be accepted from, nor will any contract be awarded to any individual, firm, partnership, corporation or association who is currently in litigation with the Owner, or who is providing testimony in current litigation against the Owner or who has a financial interest in any litigation against the

Owner.

3.4 All bidders must be an Underground-Utility and Excavation Contractor licensed in the State of Florida.

3.5 Bidders are required to complete and submit with their Bid the Qualification Requirements included in the Front End Bid Documents. Owner will evaluate experience and conduct reference checks as part of the bid evaluation process to assess whether Bidder is qualified and responsible to perform the Work presented in the Bid Documents. Bidder must show that he/she has sufficient manpower and equipment to complete the Work, that previous experience is of the type and magnitude presented in the Bid Documents for this contract, that past projects of similar type and magnitude have been completed within budget and on schedule, that past projects have been managed professionally and construction quality and field supervision are professional and of best industry practice.

3.6 Any Bidder who does not meet the qualification requirements of the Bid will not be considered for award.

3.7 Owner reserves the right to request additional experience, reference information, financial information and any other information necessary to perform a comprehensive evaluation of the Contractor and his/her major subcontractors.

3.8 The Contractor of Award is required to hold a Town of Jupiter occupational license at the time work commences.

4. EXAMINATION OF BID/CONTRACT DOCUMENTS AND SITE

4.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly, (b) visit the site(s) to familiarize himself with local conditions that may in any manner affect cost, progress or performance of the Work, (c) familiarize himself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work; and (d) study and carefully correlate Bidder's observations with the Contract Documents.

4.2 Site(s) are accessible Bidders to conduct such investigations and tests as each Bidder deems necessary for submission of a Bid.

4.3 The lands upon which the Work is to be performed, rights-of-way for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Supplementary Conditions, General Requirements or Drawings.

4.4 The submission of a Bid will constitute an incontrovertible representation by the Bidder that he has complied with every requirement of this Article 4 and

that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the Work.

5. DETERMINATION OF ESTIMATED QUANTITIES

5.1 Lump Sum Contracts: The Bidder is responsible for the determination of the quantities for those items constructed within the authorized plan limits or dimensions. The Owner does not assume any responsibility for any incidental information in Bid documents that may be construed as a quantity of work and/or materials.

5.2 Contracts other than Lump Sum: For those items constructed within authorized plan limits or dimensions, use the quantities shown in the plans and in the Bid Form as the basis of the Bid. The Owner will also use these quantities for final payment as limited by the provisions for the field conditions, use and measurement, the quantities shown in the plans and in the proposal form are approximate and provide only a basis for calculating the bid upon which the Owner will award the Contract. Where items are listed for payment as lump sum units, the Bidder is solely responsible for his own estimates of such quantities and of the work to be performed.

5.3 The Owner reserves the right to make, at any time prior to or during the progress of the work, such increases, decreases, or alterations to the estimated quantities of work to be done or materials to be furnished which materially increases or decreases the cost or time of performance. Such increases, decreases, or alterations shall not constitute a breach of contract, shall not invalidate the contract, nor release the Surety from any liability arising out of this Contract or the Surety bond. The bidder agrees to perform the work, as altered, the same as if it had been a part of the original Contract.

6. INTERPRETATIONS

All questions about the meaning or intent of the Contract Documents shall be submitted to The Town of Jupiter Utilities, Attn: Brad Wagner in writing via email to bradw@jupiter.fl.us, via mail to 17403 Central Boulevard, Jupiter, FL 33458, or via Fax (561)746-2792. If necessary, Mr. Wagner can be reached by phone at (561) 741-2589.. Replies will be issued by Addenda through Demandstar.com. Questions received less than three days prior to the date for opening of Bids will not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

7. BID SECURITY

7.1 Bid Security shall be made payable to Owner, in an amount of five percent (5%) of $400,000 ($20,000) in the form of a certified or bank check or a Bid Bond issued by a Surety meeting the requirements of Paragraphs 5.01 and

5.02 of the General Conditions.

7.2 The Bid Security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required Contract Security, whereupon it will be returned; if the successful Bidder fails to execute and deliver the Agreement and furnish the required Contract Security within 15 days of the Notice of Award, Owner may annul the Notice of Award and the Bid Security of that Bidder will be forfeited. The Bid Security of any Bidder whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the seventh day after the "effective date of the Agreement" (which term is defined in the General Conditions) by Owner to Contractor and the required Contract Security is furnished or the ninety-first day after the Bid opening. Bid Security of other Bidders will be returned within seven days of the Bid opening.

8. CONTRACT TIME

The number of days within which, or the date by which, the Work is to be completed (the Contract Time) is set forth in the Bid Form and will be included in the Agreement.

9. LIQUIDATED DAMAGES

Provisions for liquidated damages, if any, are set forth in the Agreement.

10. SUBSTITUTE MATERIAL AND EQUIPMENT

The Contract, if awarded, will be on the basis of material and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Owner, application for such acceptance will not be considered by Owner until after the "effective date of the Agreement". The procedure for submittal of any such application by Contractor and consideration by Owner is set forth in paragraph 6.05 of the General Conditions which may be supplemented in the General Requirements.

11. SUBCONTRACTORS, ETC.

11.1 If the Supplementary Conditions require the identity of certain Subcontractors and other persons and organizations to be submitted to Owner in advance of the Notice of Award, the apparent Successful Bidder, and any other Bidder so requested, will within seven days after the day of the Bid opening submit to Owner a list of all Subcontractors and other persons and organizations (including those who are to furnish the principal items of material and equipment) proposed for those portions of the Work as to which such identification is so required. Such list shall be accompanied by an experience statement with pertinent information as to similar projects and other evidence of qualification for each such Subcontractor, person and

organization if requested by Owner. If Owner after due investigation has reasonable objection to any proposed Subcontractor, other person or organization, either may before giving the Notice of Award request the apparent Successful Bidder to submit an acceptable substitute without an increase in the Bid price. If the apparent Successful Bidder declines to make any such substitution, the contract shall not be awarded to such Bidder, but his declining to make any such substitution will not constitute grounds for sacrificing his Bid Security. Any Subcontractor, other person or organization so listed and to whom Owner does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner.

11.2 In contracts where the Contract Price is on the basis of Cost-of-the-Work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to Owner those portions of the Work that such Bidder proposes to subcontract and after the Notice of Award may only subcontract other portions of the Work with Owner's written consent.

11.3 No Contractor shall be required to employ any Subcontractor, other person or organization against whom he has reasonable objection.

11.4 Prime Contractor must perform a minimum of 60% of the work of this contract with his/her own forces.

12. PRICES BID

12.1 Prices shall be shown in unit amounts, written numerical figures, and extensions whenever applicable. In the event of discrepancies existing between unit amounts and extension or totals, the written unit amounts shall govern.

12.2 Discrepancies in the multiplication of units of work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

12.3 All applicable discounts shall be included in the Bid price for materials and services and will be considered as determining factors in recommending an award in case of tie Bids. Discounts extended to Owner shall include but not be limited to those discounts normally extended to governmental agencies as well as the private sector.

12.4 Chain discounts are not acceptable and will not be considered in determining an award. Bidders may bid only one (1) discount for each item on the Bid Form. Firm discounts and prices are to be quoted for the term of the Contract.

12.5 Bidder warrants by virtue of bidding that prices, terms and conditions in the Bid will be firm for acceptance for a period of ninety (90) calendar days from

the date of Bid opening unless otherwise stated by the Owner.

12.6 The Bid price shall include all permit fees, royalties, license fees and other costs arising from the use of such design, device or materials in any way involved in the work and all costs of packaging, transporting and delivery to the designed location within the Owner.

12.7 For the purpose of evaluation, the Bidder must indicate any variance or exceptions to the stated specification no matter how slight. Deviations should be explained in detail. Absence of variations and/or corrections will be interpreted to mean that the Bidder meets all the specifications in every respect.

13. BID FORM

13.1 The Bid Form is included herein (see Proposal).

13.2 Bid Forms must be completed in ink or by typed font. Contractor must bid on all alternates in the bid form. All bid forms must be filled out in their entirety. Figures must be provided for all unit prices and values. Incomplete bid forms will be considered non-responsive.

13.3 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

13.4 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

13.5 All names must be typed or printed below the signature.

13.6 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

13.7 The address to which communications regarding the Bid are to be directed must be shown.

14. SUBMISSION OF BIDS

Two copies of the Bid (a signed original and a hard copy) shall be submitted at the time and place indicated in the Advertisement for Bids or Invitation to Bid and shall be included in an opaque sealed envelope, marked with the Project title and name and address of the Bidder and accompanied by the Bid Security and other required documents. If the Bid is sent through the mail or other delivery system the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face thereof, with the Project name on the front.

15. MODIFICATION AND WITHDRAWAL OF BIDS

15.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

15.2 If, within twenty-four hours after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of his Bid, which Bidder may withdraw his Bid and the Bid Security will be returned. Thereafter, that Bidder may be disqualified from further bidding on the Work. If a notice is filed with Owner after 24 hours then the Contractor will sacrifice his Bid Bond.

16. OPENING OF BIDS

16.1 Bids will be opened publicly.

16.2 When Bids are opened publicly they will be read aloud, and an abstract of the amounts of the base Bids and major alternates (if any) will be posted on Demandstar.com and made available after the opening of Bids.

17. BIDS TO REMAIN OPEN

17.1 All Bids shall remain open for ninety days after the day of the Bid opening, but Owner may, in his sole discretion, release any Bid and return the Bid Security prior to that date.

18. AWARD OF CONTRACT

18.1 Owner reserves the right to reject any and all Bids, to waive any and all informalities and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, non-responsive or conditional Bids. Discrepancies between words and figures will be resolved in favor of words. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between the indicated value and the correct value as calculated by the product of the unit price and the estimated quantity will be resolved by using the stated unit price.

18.2 In evaluating Bids, the Owner shall consider the qualifications of the Bidders whether or not the Bids comply with the prescribed requirements, alternates, and unit process, if requested in bid form.

18.3 Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity of Subcontractors and other persons and

organizations must be submitted as provided in the Supplementary Conditions. Operating costs, maintenance considerations, performance data and guarantees of materials and equipment may also be considered by Owner.

18.4 Owner may conduct such investigations as he deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors and other persons and organizations to do the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

18.5 Owner reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to Owner's satisfaction.

18.6 If the contract is to be awarded, it will be awarded to the lowest Bidder, based on the Total Bid Cost on the Schedule of Values in the proposal whose evaluation by Owner indicates to the Owner that the award will be in the best interest of the Owner.

18.7 If the contract is to be awarded, Owner will give the Successful Bidder a Notice of Award within ninety (90) days after the day of the Bid opening.

18.8 More than one Bid received for the same work from an individual, firm, partnership, corporation or association under the same or different names will not be considered. If, in the determination of the Town, there are reasonable grounds for believing that any Bidder is interested in more than one Bid for the same work, or that any collusion exists among the Bidders, this will result in the rejection of the Bids of those Bidders who participated in those Bids. In either case the Town may deem those Bidders not to be a responsible or qualified Bidder.

19. PERFORMANCE AND OTHER BONDS

Article 5.0 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to Performance and Payment Bonds. Contractor shall furnish performance and payment bonds, each in an amount of $500,000.00 as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by the required Contract Security. In the event that the Value of Work anticipated to be outstanding exceeds $500,000 Owner will request Contractor to increase his payment and performance bonds to cover total value of the work. Owner will compensate Contractor for the actual cost to increase bonds to the required amount.

20. SIGNING OF AGREEMENT

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by at least two unsigned counterparts of the Agreement and all other Contract Documents. Within fifteen days thereafter Contractor shall sign and

deliver at least two counter-parts of the Agreement to Owner with all other Contract Documents attached. Within thirty days thereafter, Owner will deliver all fully signed counterparts to Contractor.

21. PERMITS

The work associated with this contract is maintenance work and is not subject to Town or County drainage permit requirements. All work must meet federal, county and local safety standards including but not limited to meeting the OSHA Trench Safety, Town of Jupiter's NPDES requirements, applicable maintenance of traffic requirements, hurricane preparedness and other miscellaneous permit requirements. In the event work does require a Town or County Permit, Owner will assist Contractor with preparing and submitting Engineering drawings/plans and permit applications and pay any associated permit fees.

Miscellaneous permits required to be obtained and paid for by the contractor include: tree removal permits, dewatering permits, NPDES NOI permits, maintenance of traffic approvals. Contractor is responsible to pay for any permits and/or fees associated with any of these types of permits.

22. TAXES

The successful Bidder shall pay all applicable sales, consumer use and other similar taxes required by law.

23. PLANS AND SPECIFICATIONS

23.1 The apparent silence of the specifications as to any detail, or the apparent omission from the Specifications of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practice is to prevail and that only material and workmanship of the finest quality are to be used. All interpretations of the specifications shall be made on the basis of this statement.

23.2 For the purpose of evaluation, the Bidder must indicate any variance or exceptions to the stated specifications no matter how slight. Deviations should be explained in detail. Absence of variations and/or corrections will be interpreted to mean that the Bidder meets all the specifications in every respect.

23.3 A Contract, if awarded, will be on the basis of material and equipment described in the plans and the technical specifications without consideration of possible substitute or an "or equal" item. Whenever it is indicated that a substitute or an "or equal" item of material or equipment may be furnished or used by the Bidder if acceptable to the Owner, application for such acceptance will not be considered by the Owner until after the date of execution of the Contract. In all cases, the low Bidder shall be determined on the basis of the base bid which shall reflect the costs for the materials and equipment specified. Bidders unable to provide the specified materials and

equipment shall be determined unresponsive.

23.4 Successful Bidder upon award of the Contract will be supplied with two sets of the Executed Contract and Technical Specifications (one original and one copy), two sets of any plans associated with the Contract, and electronic files of same.

24. EQUAL OPPORTUNITY

The Town of Jupiter recognizes fair and open competition as a basic tenet of public procurement. Contractors doing business with the Town are prohibited from discriminating on the basis of race, color, creed, national origin, handicap, age or sex.

25. OCCUPATIONAL HEALTH & SAFETY

25.1 In compliance with Chapter 442, Florida Statutes, any toxic substance listed in Section 38F-41.03 of the Florida Administrative Code delivered as a result of this Bid must be accompanied by a Material Safety Data Sheet ("MSDS") which may be obtained from the manufacturer. The MSDS must include the following information:

25.1.1 The chemical name and the common name of the toxic substance.

25.1.2 The hazards or other risks in the use of the toxic substance including: a) The potential for fire, explosion, corrosively and reactivity; b) The known acute and chronic health effects of risk from exposure including the medical conditions which are generally recognized as being aggravated by exposure to the toxic substance; and c) The primary routes of entry and symptoms of over exposure.

25.1.3 The proper precautions, handling practices, necessary personal protection equipment and other safety precautions in the use of or exposure to the toxic substances, including appropriate emergency treatment in case of exposure.

25.1.4 The emergency procedure for spills, fire, disposal and first aid.

25.1.5 A description in lay terms of the known specific potential health risks posed by the toxic substance intended to alert any person reading this information.

25.1.6 The year and month, if available, that the information was compiled and the name, address, and emergency telephone number of the manufacturer responsible for preparing the information.

25.2 Bidders are required to complete and submit with their bid the Contractor Safety Qualifications Form included in the Front End Documents.

25.3 The Contractor will be responsible to complete and submit with his bid the Trench Safety form included in the Front End Documents. The Contractor will be required to perform work under this contract in conformance with the OSHA Trench Safety Act.

26. AUDIT RIGHTS

26.1 The Owner reserves the right to audit the records of the successful Bidder for the commodities and/or services provided under the Contract at any time during the performance and term of the Contract and for a period of five (5) years after completion and acceptance by the Owner. If required by the Owner, the successful Bidder agrees to submit to an audit by an independent certified public accountant selected by the Owner. The successful Bidder shall allow the Owner to inspect, examine and review the records of the successful Bidder in relation to this contract at any and all times during normal business hours during the term of the Contract.

26.2 The Inspector General of Palm Beach County has the authority to investigate and audit matters relating to the negotiation and performance of this Contract and in furtherance thereof may demand and obtain records and testimony from the Contractor and its subcontractors and lower tier subcontractors. The Contractor understands and agrees that in addition to other remedies and consequences provided by law, the failure of the Contractor or its subcontractors or lower tier subcontractors to fully cooperate with the Office of Inspector General of Palm Beach County when requested may be deemed by the municipality to be a material breach of this contract justifying its termination. The Office of Inspector General in Palm Beach County is established by Palm Beach County Code, Section 2-421 - 2-440. Failure to cooperate with the Inspector General or interfering with or impeding any investigation shall be in violation of Palm Beach County Code, Section 2-421 – 2-440, and be punished pursuant to Section 125.69, Florida Statutes, in the same manner as a second degree misdemeanor.

27. CONFLICT OF INTEREST

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

28. OPEN END CONTRACT

28.1 No guarantee is expressed or implied as to the total quantity of

commodities/services to be purchased under any open end Contract. Estimated quantities will be used for Bid comparison purposes only. The Owner reserves the right to issue Work Orders as and when required for proposed work for any or all bid items or any combination thereof. Work under this Contract is subject to fiscal appropriation by the Jupiter Town Council in either or both the Town's Community Investment Program (CIP) and fiscal year operating budgets. Estimated funding budgets anticipated being available for the original two year contract term and subsequent two year and one year renewal terms are provided in the table below.

Anticipated Estimated Annual Funding

Town of Jupiter Utilities

Unit Price Contract for Stormwater Utility Infrastructure Repairs (S1628)

Year	Project Description	Estimated Value	
2016/2017	Miscellaneous Stormwater Repairs	$200,000	
2017/2018	Miscellaneous Stormwater Repairs	$200,000	
	Estimated Initial 2 Year Contract Term Total		**$400,000**
2018/2019	Miscellaneous Stormwater Repairs	$200,000	
2019/2020	Miscellaneous Stormwater Repairs	$200,000	
	Estimated 2 Year Contract Term Extension Total		**$400,000**
2020/2021	Miscellaneous Stormwater Repairs	$200,000	
	Estimated 1 Year Contract Term Extension Total		**$200,000**
	Estimated 5 Year Total		**$1,000,000**

The Town's fiscal calendar runs from October 1st through September 30th.

28.2 The Owner reserves the right to purchase commodities/services specified herein through contracts established by other governmental agencies or through separate procurement actions due to unique or special needs. If an urgent delivery is required within a short period than the delivery time specified in the Contract, and if the seller is unable to comply therewith, the Owner reserves the right to obtain such delivery from others without penalty or prejudice to the Owner or to the Bidder.

28.3 The initial term of the Contract will be two years (730 calendar days) from the date of Notice to Proceed. Owner may at Owner's sole discretion renew its Contract for one (1) additional two (2) year term and one (1) additional (1) year term for a total Contract period of five (5) years. It is solely the responsibility of the Contractor to initiate any renegotiation of the Unit Prices of the Contract sixty (60) days prior to the expiration date of the Contract. Failure to initiate renegotiation of rates sixty (60) days prior to the expiration date will result in the continuation of the Unit Prices in the Contract until the next expiration date. Owner reserves the right to terminate negotiations and

continue work under existing rates or terminate the Contract. Regardless of anything to the contrary, this Contract may be terminated by the Owner at any time and for any reason. Further, the Contractor agrees that it will not be entitled to any claims and/or damages resulting from such termination, including, but not limited to, lost profits, direct or indirect damages, and consequential special or punitive damages.

29. CONFLICT OF INTEREST

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

30. SPECIAL LEGAL REQUIREMENTS

30.1 PUBLIC RECORDS

The CONTRACTOR shall comply with public records laws Chapter 119, Florida Statutes, specifically to: Keep and maintain public records that ordinarily and necessarily would be required by the TOWN in order to perform the service; Provide the public with access to public records on the same terms and conditions that the TOWN would provide the records and at a cost that does not exceed the cost provided in Chapter 119, F.S. or as otherwise provided by law; Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed exempt as authorized by law; Meet all requirements for retaining public records and transfer, at no cost, to the TOWN all public records in possession of the contractor upon termination of the contract and destroy any duplicate public records that are exempt of confidential and exempt from public disclosure requirements. All records stored electronically must be provided to the TOWN in a format that is compatible with the information technology systems of the TOWN. If the CONRACTOR does not comply with a public records request, the public agency shall enforce the contract provisions in accordance with the contract.

119.0701 Contracts; public records. –

(1) For purposes of this section, the term:

(a) "Contractor" means an individual, partnership, corporation, or business entity that enters into a contract for services with a public agency and is acting on behalf of the public agency is provided under s. 119.011(2).

(b) "Public agency" means a state, county, district, authority, or municipal officer, or department, division, board, bureau, commission, or other separate unit government created or established by law.

(2) In addition to other contract requirements provided by law, each public agency contract for services must include a provision that requires the contractor to comply with public records laws, specifically to:

(a) Keep and maintain public records that ordinarily and necessarily would be required by the public agency in order to perform the service.

(b) Provide the public with access to public records on the same terms and conditions that the public agency would provide the records and at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.

(c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.

(d) Meet all requirements for retaining public records and transfer, at no cost, to the public agency all public records in possession of the contractor upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the public agency in a format that is compatible with the information technology systems of the public agency.

(3) If a contractor does not comply with a public records request, the public agency shall enforce the contract provisions in accordance with the contract.

30.2 OFFER EXTENDED TO OTHER GOVERNMENTAL ENTITIES

The Town of Jupiter encourages and agrees to the successful bidder extending the pricing, terms and conditions of this solicitation or resultant contract to other governmental entities at the discretion of the successful bidder.

30.3 CONE OF SILENCE

Sec. 2-355. Cone of Silence.

(a) Cone of silence means a prohibition on any communication, except for written correspondence, regarding a particular request for proposal, request for qualification, bid, or any other competitive solicitation between:

(1) Any person or person's representative seeking an award from such competitive solicitation; and

(2) Any county commissioner or commissioner's staff, any member of a local governing body or the member's staff, a mayor or chief executive officer that is not a member of a local governing body or the mayor or chief executive officer's staff, or any employee authorized to act on behalf of the commission or local governing body

to award a particular contract.

(b) For the purposes of this section, a person's representative shall include but not be limited to the person's employee, partner, officer, director, consultant, lobbyist, or any actual or potential subcontractor or consultant of the person.

(c) The cone of silence shall be in effect as of the deadline to submit the proposal, bid, or other response to a competitive solicitation. The cone of silence applies to any person or person's representative who responds to a particular request for proposal, request for qualification, bid, or any other competitive solicitation, and shall remain in effect until such response is either rejected by the county or municipality as applicable or withdrawn by the person or person's representative. Each request for proposal, request for qualification, bid or any other competitive solicitation shall provide notice of cone of silence requirements and refer to this article.

(d) The provisions of this article shall not apply to oral communications at any public proceeding, including pre-bid conferences, oral presentations before selection committees, Contract negotiations during any public meeting, presentations made to the board or local municipal governing body as applicable, and protest hearings. Further, the cone of silence shall not apply to contract negotiations between any employee and the intended awardee, any dispute resolution process following the filing of a protest between the person filing the protest and any employee, or any written correspondence at any time with any employee, county commissioner, member of a local municipal governing body, mayor or chief executive officer that is not a member of the local municipal governing body, or advisory board member or selection committee member, unless specifically prohibited by the applicable competitive solicitation process.

(e) The cone of silence shall not apply to any purchases made in an amount less than the competitive bid threshold set forth in the county purchasing ordinance (County Code, chapter 2, article III, division 2, part A, section 2-51 et seq.) or municipal ordinance as applicable.

(f) The cone of silence shall terminate at the time the board, local municipal governing body, or a county or municipal department authorized to act on behalf of the board or local municipal governing body as applicable, awards or approves a contract, rejects all bids or responses, or otherwise takes action which ends the solicitation process.

(g) Any contract entered into in violation of the cone of silence provisions in this section shall render the transaction voidable.

END OF INSTRUCTIONS TO BIDDERS

Bidding Company Name: JOHNSON-DAVIS INC.

PROPOSAL
TO
TOWN OF JUPITER UTILITIES

Town of Jupiter
210 Military Trail
Jupiter, Florida 33458

Gentlemen:

The undersigned, as Bidder, hereby declares that the only Persons, company, or parties interested in the Proposal or the Contract to be entered into, as principals, are named herein; and that this Proposal is made without connection with any other person, company, or parties making a Bid or Proposal; and that it is in all respects fair and in good faith without collusion or fraud.

That the Bidder has carefully and to his full satisfaction examined the attached Instructions to Bidders, General Conditions, Supplementary Conditions, detailed Specifications, and Form of Contract and Bond, together with the accompanying plans, and that he has read all addenda issued prior to the opening of Bids; and that he has fully examined the site and the project documents and hereby agrees to furnish, unless otherwise provided, all implements, machinery, equipment, transportation, tools, materials, supplies, labor and other things necessary to the prosecution and completion of the work, to wit:

> Provide stormwater utility infrastructure repairs, replacements and/or installations on an as needed basis utilizing one or a combination of a number of unit price bid items. These items may include, but are not limited to: bypass pumping; realigning or replacing inlet/manhole castings; sealing and/or grouting storm water pipe joints; installing new manholes/conflict boxes/catch basins; pipe to structure connection repairs; storm water pipe point repairs; and restoring miscellaneous surface improvements such as asphalt roadway replacement, pavement overlay, concrete sidewalk replacement, concrete curb and gutter replacement, sod replacement, fence replacement and other improvements as described by the Project Documents.

It is proposed that the project herein described shall be constructed for the Unit Prices as follows, all in accordance with the requirements and provisions of the Contract Documents.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

TOWN OF JUPITER
UNIT PRICE CONTRACT FOR
STORMWATER UTILITY INFRASTRUCTURE REPAIRS
(S1628)

Bid Schedule of Values – Addendum 3

Item No.	Item Description	Estimated Quantity	Unit	Unit Price	Total Amount
	Bid Items:				
1	Indemnification	1	LS	$ 100.00	$ 100.00
2	Bonds and Insurance	1	LS	$ 100 -	$ 100 -
3	4 Man Underground Construction Crew	1	HR	$ 252 -	$ 252 -
4	Overtime Multiplier for 4 Man Underground Crew, (Total Amount = ____% x Bid Item No. 3)	MULT.	%	1.25 %	$ 315 -
5	Combined Backhoe Loader with Operator	1	HR	$ 90 -	$ 90 -
6	Hydraulic Excavator with Operator	1	HR	$ 160 -	$ 160 -
7	Dump Truck with Operator	1	HR	$ 66 -	$ 66 -
8	Dewatering with 4" Hydraulic Pump	1	HR	$ 50 -	$ 50 -
9	Dewatering with Well Points	1	DAY	$ 300 -	$ 300 -
10	Asphalt Road Repair	1	SY	$ 30 -	$ 30 -
11	Asphalt Driveway Apron	25	SY	$ 25 -	$ 625 -
12	Concrete Driveway Apron Replacement	25	SY	$ 40 -	$ 1000 -
13	Paver Driveway Repair	120	SF	$ 6 -	$ 720 -
14	Concrete Sidewalk	4	SY	$ 40 -	$ 160 -
15	Valley Curb	3	LF	$ 30 -	$ 90 -

16	Type D Curb	3	LF	$ 30-	$ 90-
17	Bahia Sod	20	SY	$ 5-	$ 100-
18	Saint Augustine Sod	20	SY	$ 6-	$ 120-

Total Bid Price: (Item Nos. 1-18)= $ 4,368-

Total Bid in Words: Four Thousand Three Hundred Sixty Eight dollars and zero cents

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

Total Bid Price: (Item Nos. 1-17)= $_____

Total Bid in Words: _____

_____

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

BID PROPOSAL
QUALIFICATION REQUIREMENTS

(Complete this form in its entirety and include with Bid. Attach copies of applicable Licenses and additional pages as needed.)

THE UNDERSIGNED GUARANTEES THE TRUTH AND ACCURANCY OF ALL STATEMENTS AND ANSWERS HEREIN CONTAINED:

A. Any information for which OWNER cannot corroborate is grounds for rejection of Bid. (Use additional sheets as required to provide the required information.)

B. The individual who holds the General Contractor's License or Underground Utility Contract License for the firm awarded the Work of this Contract shall be active in the management and ownership of the firm and shall be available to provide his/her expertise on the project during the course of the project as needed. Provide the name, license number and contact information of this individual.

Scott J. Johnson (President) License CUC043084 Phone: 561-588-1170

1. State the numbers of years your organization has been doing business in the State of Florida.

   39 years

2. State the number of years your organization has been doing business as a Licensed General Contractor or Underground Utility Contractor in the State of Florida.

   39 years

3. We typically perform 100 % of the work with our own forces. List trades below for the Work of this Contract for which your organization is qualified to self-perform:

   _____

   _____

   _____

4. Have you ever failed to complete work awarded to you? No.
   If so, state where, when and why:

5. State the location of the office from which this contract will be managed.

   604 Hillbrath Drive. Lantana, FL 33462

6. State the number of employees available to complete the work contemplated by this contract.

   15 employees

7. Name and experience of Project Manager who will be assigned to this Contract. Include number of years in this position and with this company. If less than 3 years with this company provide information for previous employer. (attach additional pages as necessary).

   See attached

8. Name and experience of Project Superintendent who will be assigned to this Contract. Include number of years in this position and with this company. If less than 3 years with this company provide information for previous employer. (attach additional pages as necessary).

   See attached

9. Equipment owned by Contractor to complete the Work identified for this Contract.

   Johnson-Davis owns more than 100 pieces of heavy equipment required to complete this contract.

   A detailed list will be provided if successful.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

EMPLOYEE PROFILE

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

Dennis Wheelin

EDUCATION:

B.S. – Civil Engineering Technology
A.A. – Architectural Engineering Technology
Wentworth Institute of Technology, Boston, MA

EXPERIENCE:

2015 – Present

Johnson-Davis Inc., Lantana, FL
Project Manager
Underground utility construction contractor specializing in water, sewer, storm drainage systems and dewatering, as well as highway and road construction. Tasks include project takeoffs, material ordering, subcontractor agreements, project meetings, monthly billing, and change orders.

2009 – 2015

The Murphy Construction Co., West Palm Beach, FL
Project Manager
Heavy/Marine Construction. Responsible for construction activities, project budget, schedule, crew/resource allocation, material procurement, receiving subcontractor bids, coordinating scheduling, change orders, and job estimates for three major FDOT bridge constructions.

2005 – 2009

Wantman Group, Inc., West Palm Beach, FL
Design Engineer
Land Development and Roadway Construction. Design land development construction projects. Developmental/ drafting of design plans for land development and roadway construction projects.

2003 – 2005

Gale Associates, Inc., Weymouth, MA
Design Engineer
Land Development. Design land development construction projects throughout Massachusetts. Development/drafting of design plans for land development construction projects.

RELATED ACCOMPLISHMENTS:
Experienced with AutoCAD, MicroStation, Primavera Contractor Scheduling, etc

EMPLOYEE PROFILE

Doug Ipolito

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

EXPERIENCE:

2008 – Present	Johnson-Davis, Inc., Lantana, FL Project Manager Underground utility construction contractor specializing in DOT projects including water, sewer, storm drainage systems, as well as highway and road construction.
2006 - 2008	Hubbard Construction Company Project Engineer
2004 – 2006	Subaqueous Services, Inc. Lake Michigan Contractors Project and Operations Manager
1988 – 2004	Great Lakes Dredge and Dock Company Project Manager – 1997 – 2004 Project Engineer – 1993 – 1997 Field Engineer – 1988 - 1993
EDUCATION:	AAS Civil Engineering – Erie Community College, Buffalo, NY – Civil Engineering, SUNY Buffalo

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

EMPLOYEE PROFILE

William Clark Clifford Cryer

EDUCATION:

B.S. – Business Administration,
Real Estate and Construction Management Major
University of Denver, Denver, CO

EXPERIENCE:

2014 – Present

Johnson-Davis Inc., Lantana, FL
Project Manager
Underground utility construction contractor specializing in water, sewer, storm drainage systems, as well as highway and road construction. Company representative at pre-construction and project meetings. Order materials, billing, and job coordination for private and public utility projects.

2013 – 2014

Johnson-Davis Inc., Lantana, FL
Superintendent
Liaison between Project Manager and Foremen overseeing field operations of storm drainage, sanitary sewer, water, and force main crews.

2012 – 2013

Johnson-Davis Inc., Lantana, FL
Foreman
Field supervisor responsible for 7 to 10 person crew installing storm drainage, sanitary sewer, water, and force mains.

2011 – 2012

Johnson-Davis Inc., Lantana, FL
Punch Out Crew Leader and Skilled

OTHER CERTIFICATIONS:
OSHA 30 hour Construction Health and Safety Course

EMPLOYEE PROFILE

Joseph W. Bagford

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

EDUCATION:

Santaluces High, Lantana, FL
NUCA Confined Space Entry
NUCA Competent Person Training
OSHA Trench Safety Certified
State of Florida Class B Water Technician

EXPERIENCE:

2011 – Present

Johnson-Davis Inc., Lantana, FL
Superintendent
Underground utility construction contractor specializing in water, sewer, storm drainage systems, as well as highway and road construction. Liaison between Project Manager and Foremen overseeing field operations of storm drainage, sanitary sewer, water, and force main crews on multiple projects and job sites.

2001 – 2011

Johnson-Davis Inc., Lantana, FL
Foreman
Field supervisor responsible for 7 to 10 person crew installing storm drainage, sanitary sewer, water, and force mains, lift stations, sheeting, fire hydrants, HDPE pipe fusing, box culverts/underground tunnels, bridge drains, large jack and bore projects under highways, and arch bridge construction. Projects include DOT, municipalities and counties, SFWMD, LWDD, Army Corp of Engineers, airports, and private sector jobs.

1999 – 2001

Centerline Utilities, Jupiter, FL
Foreman
Field supervisor responsible for 5 to 7 person crew installing storm drainage, sanitary sewer, water, and force mains.

1988 – 1999

City of Lake Worth, Lake Worth, FL
Foreman/Pipelayer/Heavy Equipment Operator
Field supervisor and pipelayer installing water and sewer mains as well as operate track excavator, rubber tire backhoe, front end loader, and bulldozers.

EMPLOYEE PROFILE

Norman E. Weaver Jr.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

EXPERIENCE:

2012 – Present	Johnson-Davis Inc., Lantana, FL Superintendent Underground utility construction contractor specializing in water, sewer, storm drainage systems, as well as highway and road construction. Liaison between Project Manager and Foremen overseeing field operations of storm drainage, sanitary sewer, water, and force main crews.
2009 – 2012	Johnson-Davis Inc., Lantana, FL Foreman Field supervisor responsible for 7 to 10 person crew installing storm drainage, sanitary sewer, water, and force mains.
1970 – 2009	Belvedere Contracting, Jupiter, FL Foreman Field supervisor responsible for 7 to 10 person crew installing storm drainage, sanitary sewer, water, and force mains.

JOHNSON- DAVIS INC.

604 Hillbrath Drive, Lantana, FL 33462

COMPLETED PROJECTS

Project #	20905
Name	Sarno Lakes II Part A Bid #B3-12-50
Location	Brevard County, FL
Contract Amount	$3,158,963.47
Type of Project	Storm Drainage
Description of Project	Upsizing and addition of storm drainage through existing neighborhoods
Type of Contract	Prime Contractor
Date Completed	1/29/2014
Project Manager/ Superintendent	Bob Spink/Edric Martin
Owner	Brevard County, FL
Owner Address	4690 N. Wickham Road, Melbourne, Florida 32935
General Contractor	Johnson-Davis Incorporated
General Contractor Address	604 Hillbrath Dr., Lantana, FL 33462
Contact	Bach McClure Phone# 321-633-2016
Architect/ Engineer	Pegasus Engineering Phone # 407-366-7070

JOHNSON DAVIS INC.

604 Hillbrath Drive, Lantana FL 33462

561-588-1170

COMPLETED PROJECTS

Project Name	Sarno lakes Phase II
Final Contract Amount	$3,158,963.00
Description of Project	Construction of a master drainage system to relieve flooding in the Sarno Lakes area of Brevard County. 696lf 48" C.I.P.P liner was installed beneath I95 to provide corrosion protection for steel casing. Liner Subcontractor; Layne Inliner
Type of Contract	Prime Contractor
Owner	Brevard County B.O.C.C
Address	2725 Judge Fran Jamieson Way Viera, FL 32940
Contact	Bach V. McClure P.E 321-633-2016 bach.mcclure@brevardcounty.us

JOHNSON DAVIS INC.

604 Hillbrath Drive, Lantana FL 33462

561-588-1170

COMPLETED PROJECTS

Project Name	E4M88- R2
Final Contract Amount	$999,451.00
Description of Project	Drainage maintenance contract for Florida Department of Transportation District Four repair and installation of storm drainage facilities. C.I.P.P liner installed on three work orders by three liner subcontractors
Owner	FDOT District 4
Address	3400 W. Commercial Blvd. Ft Lauderdale FL 33309
Contact	Mike Dawson Ph: 561-370-1156 Michael.Dawson@dot.state.fl.us Jorge Corrales Ph: 954-777-4657 Jorge.Corrales@dot.state.fl.us

JOHNSON DAVIS INC.

604 Hillbrath Drive, Lantana FL 33462

561-588-1170

COMPLETED PROJECTS

Project Name	Stormwater CMP Replacement Town of Palm Beach
Final Contract Amount	$576,389.00
Description of Project	Storm drainage repairs at multiple locations with the Town of Palm Beach, complete restoration, traffic control and bypass pumping were included in the project
Owner	Town of Plam Beach Public Works
Address	951 Old Okeechobee Road, West Palm Beach, FL 33409
Contact	Mr. Mike Roach P.E Ph: 561-838-5440 Project Manager Mr. Henry Glaus P.E Project Manager Mock Roos & Assc. Ph: 561-683-3113

10. Only bidders and Subcontractor(s) who are qualified as outlined below will be considered for contract award. Qualified bidders shall have completed at least four (4) similar projects of similar size and magnitude over the last five (5) years, or equivalent experience as determined by the Town at the Town's sole discretion.

NOTE: In order to be deemed acceptable for the purpose of determining Bidder Qualification, similar projects shall be listed below and have all information completed (blanks correctly filled in) including contact names and telephone numbers of both the Owner and Engineer.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

As Bidders, we certify the following:

(1) NAME & LOCATION OF PROJECT Pleasee see attached

BIDDER WAS [ ] PRIME CONTRACTOR [ ] SUBCONTRACTOR (CHECK ONE)

YEAR OF PROJECT: _____

SCOPE OF WORK: _____

CONTRACT VALUE (WITHOUT CHANGE ORDERS): _____

CONTRACT VALUE (WITH CHANGE ORDERS): _____

DATE OF NOTICE TO PROCEED: _____

ORIGINAL CONTRACT DURATION: _____

ACTUAL COMPLETION DATE: _____

TOTAL NUMBER OF CHANGE ORDERS & DESCRIPTION: _____

OWNER OF PROJECT: _____

OWNER CONTACT NAME AND PHONE NUMBER: _____

ENGINEERING FIRM (DURING CONSTRUCTION): _____

ENGINEER CONTACT NAME, PHONE NUMBER, AND ADDRESS: _____

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

(2) NAME & LOCATION
OF PROJECT _____

_____

BIDDER WAS [ ] PRIME CONTRACTOR [ ] SUBCONTRACTOR (CHECK ONE)

YEAR OF PROJECT: _____

SCOPE OF WORK: _____

CONTRACT VALUE (WITHOUT CHANGE ORDERS): _____

CONTRACT VALUE (WITH CHANGE ORDERS): _____

DATE OF NOTICE TO PROCEED: _____

ORIGINAL CONTRACT DURATION: _____

ACTUAL COMPLETION DATE: _____

TOTAL NUMBER OF CHANGE ORDERS & DESCRIPTION: _____

_____

_____

OWNER OF PROJECT: _____

OWNER CONTACT NAME
AND PHONE NUMBER: _____

ENGINEERING FIRM
(DURING CONSTRUCTION): _____

ENGINEER CONTACT NAME,
PHONE NUMBER, AND ADDRESS: _____

_____

_____

(3) NAME & LOCATION
OF PROJECT _____

_____

BIDDER WAS [ ] PRIME CONTRACTOR [ ] SUBCONTRACTOR (CHECK ONE)

YEAR OF PROJECT: _____

SCOPE OF WORK: _____

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

CONTRACT VALUE (WITHOUT CHANGE ORDERS): _____

CONTRACT VALUE (WITH CHANGE ORDERS): _____

DATE OF NOTICE TO PROCEED: _____

ORIGINAL CONTRACT DURATION: _____

ACTUAL COMPLETION DATE: _____

TOTAL NUMBER OF CHANGE ORDERS & DESCRIPTION: _____

_____

_____

OWNER OF PROJECT: _____

OWNER CONTACT NAME
AND PHONE NUMBER: _____

ENGINEERING FIRM
(DURING CONSTRUCTION): _____

ENGINEER CONTACT NAME,
PHONE NUMBER, AND ADDRESS: _____

_____

_____

---

(4) NAME & LOCATION
OF PROJECT _____

_____

BIDDER WAS [ ] PRIME CONTRACTOR [ ] SUBCONTRACTOR (CHECK ONE)

YEAR OF PROJECT: _____

SCOPE OF WORK: _____

CONTRACT VALUE (WITHOUT CHANGE ORDERS): _____

CONTRACT VALUE (WITH CHANGE ORDERS): _____

DATE OF NOTICE TO PROCEED: _____

ORIGINAL CONTRACT DURATION: _____

ACTUAL COMPLETION DATE: _____

TOTAL NUMBER OF CHANGE ORDERS & DESCRIPTION: _____

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

OWNER OF PROJECT: _____

OWNER CONTACT NAME
AND PHONE NUMBER: _____

ENGINEERING FIRM
(DURING CONSTRUCTION): _____

ENGINEER CONTACT NAME,
PHONE NUMBER, AND ADDRESS: _____

_____

_____

If awarded the contract, the undersigned agrees to execute the attached contract within fifteen (15) calendar days from the date set forth in the Notice of Award and to fully complete all necessary work within the time limits specified below after date of written Notice to Proceed, with such extensions of time as are provided for in the General Conditions.

Final Completion	730 calendar days from Notice to Proceed

The undersigned understands the Contract time starts on the commencement date in the Notice to Proceed.

There is enclosed a bid guarantee consisting of five percent (5%) of $400,000.00, or $20,000.00.

The undersigned agrees that all bid documents issued for this project, including addenda, have been reviewed and site visits performed, as necessary to provide a comprehensive bid. The undersigned acknowledges receipt of 3 (insert number) Addenda for this project.

The undersigned furthermore agrees that, in case of failure on his part to execute said contract and bonds within (15) days after being awarded the contract, the check, bond, or other security accompanying his bid and the money payable thereon, shall become the property of the Town, by forfeit as agreed and liquidated damages; otherwise the check or bond accompanying his proposal shall be returned to the undersigned.

The undersigned acknowledges that payments made by the Town of Jupiter will be made via electronic funds transfers (EFT) and vendor will provide the Town of Jupiter with the information required to make EFT payments.

The undersigned, if awarded the contract, agrees to furnish at time of signing the contract, a payment bond and a performance bond, each in the amount of 100% of the contract as set forth in "Instructions to Bidders".

The undersigned states that this proposal is the only proposal for this project in which he is interested.

SUBMITTAL DATE July 25,2016

FIRM NAME Johnson-Davis Inc.

BUSINESS ADDRESS 604 Hillbrath Drive. Lantana, FL 33462

BUSINESS TELEPHONE 561-588-1170

SIGNATURE OF RESPONSIBLE OFFICIAL

PRINT NAME & TITLE Scott J. Johnson President

EMAIL ADDRESS OF RESPONSIBLE OFFICIAL sjohnson@johnsondavis.com

STATE OF INCORPORATION Florida

FULL NAMES & ADDRESSES OF PERSONS OR PARTIES INTERESTED IN THE FOREGOING BID, AS PRINCIPALS:

Scott J. Johnosn	President
Robert A. Hopler	Vice President
Christopher Johnson	Secretary/ Treasurer

CONTRACTOR SAFETY QUALIFICATION FORM

SECTION 1: COMPANY INFORMATION	
Company Name:	Johnson-Davis Inc.
Address 1:	604 Hillbrath Drive
Address 2:	
City, State, Zip:	Lantana, FL 33462
Telephone No.:	561-588-1170
Fax No.:	561-585-5252
SECTION 2: NAME(S) AND RELATIONSHIPS OF PARENT COMPANY, AFFILIATES, SUBSIDIARIES, PARTNERS	
Company Name:	N/A
Address:	
City, State, Zip:	
Relationship:	
Company Name:	
Address:	
City, State, Zip:	
Relationship:	

SECTION 3: INSURANCE COVERAGE

3.1 Please attach certificates showing the extent of coverage, exclusions and deductibles for the following: See attached

- General Business Liability Insurance
- Professional Liability Insurance
- Contractors Pollution Liability Insurance
- Workman's Compensation Insurance

3.2 How long have you been covered by your current provider of Workman's Compensation Insurance? 1 year

3.3 List the Experience Modification Ratio (EMR) that has been applied to your company's workman's compensation insurance policy for the past five years:

Year	Intrastate EMR	Interstate EMR	Comments
2014-2015	0.88		
2013-2014	0.85		See attached
2012-2013	1.06		
2011-2012	1.02		

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

Bob
Andy

WEEKES CALLAWAY

better is our policy

September 24, 2014

Johnson-Davis, Inc.
604 Hillbrath Drive
Lantana, FL 33462

Re: Workers Compensation Insurance
Experience Modification History Three Years

To Whom It May Concern:

Listed below you will find a summary of Johnson-Davis, Inc. Experience Modification History for Three (3) Years.

Policy Year 2014 - 2015 - .88
Policy Year 2013 - 2014 - .85
Policy Year 2012 – 2013 – 1.06

If you require any additional information, please contact our office.

Sincerely,

Katherine M. Saltzman, AAI, AIAM
Senior Account Executive

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 2/19/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER M3 Insurance Solutions, Inc. 828 John Nolen Drive Madison WI 53713	CONTACT NAME: Trisha Stark PHONE (A/C, No, Ext): 608-288-2805 FAX (A/C, No): E-MAIL ADDRESS: Trisha.Stark@m3ins.com PRODUCER CUSTOMER ID #: JOHNINC-01
INSURED Johnson-Davis, Inc 604 Hillbrath Drive Lantana FL 33462	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A: Amerisure Mutual Insurance INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES CERTIFICATE NUMBER: 707070848 REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY						EACH OCCURRENCE	$
	COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	CLAIMS-MADE OCCUR						MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
							GENERAL AGGREGATE	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$
	POLICY PRO-JECT LOC							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS						BODILY INJURY (Per accident)	$
	SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident)	$
	HIRED AUTOS							$
	NON-OWNED AUTOS							$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DEDUCTIBLE							$
	RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N			WC21001350002	3/1/2016	3/1/2017	X WC STATU-TORY LIMITS OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N/A					E.L. EACH ACCIDENT	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

CERTIFICATE HOLDER

Johnson-Davis, Inc.
604 Hillbrath Dr.
Lantana FL 33462

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Trisha Stark

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JOHNINC-02 SBUHR

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 2/26/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Johnson Insurance Racine
555 Main Street, Suite 291
Racine, WI 53403

CONTACT NAME: Sharon Majeski, ARM
PHONE (A/C, No, Ext): (262) 321-2300 **FAX (A/C, No):** (262) 619-2805
E-MAIL ADDRESS: info@johnsonins.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : HDI Global Insurance Company	41343
INSURER B : Certain Underwriters at Lloyd's	
INSURER C : XL Specialty Insurance Company	37885
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Johnson-Davis, Inc.
604 Hillbrath Drive
Lantana, FL 33462

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	X COMMERCIAL GENERAL LIABILITY			EGGCC000173516	03/01/2016	03/01/2017	EACH OCCURRENCE	$	2,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$	300,000
							MED EXP (Any one person)	$	10,000
							PERSONAL & ADV INJURY	$	2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$	2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$	2,000,000
	OTHER:							$	
A	AUTOMOBILE LIABILITY			EAGCC000173516	03/01/2016	03/01/2017	COMBINED SINGLE LIMIT (Ea accident)	$	2,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$	
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$	
	X HIRED AUTOS / X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$	
							PIP Basic	$	10,000
A	UMBRELLA LIAB X OCCUR			EXAGC000173515	03/01/2016	03/01/2017	EACH OCCURRENCE	$	3,000,000
	X EXCESS LIAB / CLAIMS-MADE						AGGREGATE	$	3,000,000
	DED X RETENTION $ 0							$	
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						PER STATUTE / OTH-ER		
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N/A (Mandatory in NH)						E.L. EACH ACCIDENT	$	
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$	
							E.L. DISEASE - POLICY LIMIT	$	
B	Excess Liability			ELD10006501301	03/01/2016	03/01/2017	Excess Liab over 3 M		1,000,000
C	Installation Floater			UM00034349MA16A	03/01/2016	03/01/2017	Blanket		200,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Contractor's Pollution Liability - Policy # 7930030920001- Limit - $1,000,000 - 3/1/2016-17 - Homeland Insurance Company of NY

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

CERTIFICATE HOLDER
Johnson-Davis, Inc.
604 Hillbrath Dr.
Lantana, FL 33462

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Brian McNulty

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CONTRACTOR SAFETY QUALIFICATION FORM

3.4 List the contact information for an insurance broker who can verify your EMR's:

Name: Johnson Insurance Racine

Address 1: 555 Main Street, Suite 291

Address 2:

City, State, Zip: Racine, WI 53403

Telephone No.: Sharon Majeski 262-321-2300

If you do not have an EMR, please explain:

SECTION 4: INJURY AND FATALITY INFORMATION

4.1 Please transfer the numbers and rates of injuries and illnesses from your firm's OSHA No. 200 Logs to the table below:

	Year: 2013		Year: 2014		Year: 2015	
Statistic	No.	Rate	No.	Rate	No.	Rate
Lost Workday Cases	2	1.06	2	1.10	1	0.57
Restricted Workday Cases	0	0	4	2.21	3	1.71
Medical Treatment (not First Aid) Cases	4	2.12	4	2.21	3	1.71
Total Illness Cases	6	3.18	10	5.51	7	3.99
Total Recordable Cases	6	3.18	10	5.51	7	3.99
Fatalities	0	0	0	0	0	0

4.2 If your company has had fatalities in the past three years include location, cause and corrective actions in the space below:

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

CONTRACTOR SAFETY QUALIFICATION FORM

SECTION 5: SAFETY MEETINGS

5.1 Do you require that *documented* safety meetings be held for:

- Field Supervisors?	✓ Yes	__ No	Frequency: Weekly
- Employees?	✓ Yes	__ No	Frequency: Weekly
- New Hires?	✓ Yes	__ No	Frequency: Weekly
- Subcontractors?	__ Yes	✓ No	Frequency: Weekly

SECTION 6: SAFETY AUDITS

6.1 Will a representative of your company audit safety practices on this job?

✓Yes __ No

Name: Andy Thomson Title: Safety Director

How frequently will the representative visit the project site? 2-3 times a week

SECTION 7: HEALTH AND SAFETY PROGRAM

7.1 Does the company have a health and safety program? If yes, please give details below. (A copy of the program will be required to be submitted by the contractor of award before work commences).

Yes. A copy will be provided if successful

7.2 Please give the name and telephone number of your company's health and safety officer, if any:

Name: Andy Thomson Title: Safety Director

Telephone No.: 561-588-1170

SECTION 8: HEALTH AND SAFETY CITATIONS

8.1 Attach a list of any State or Federal Health and Safety citations received during the past three years. N/A

SECTION 9: SIGNATURE OF COMPANY OFFICER

I certify that to the best of my knowledge, information, and belief formed after reasonable inquiry, the information submitted is true, accurate, and complete.

Name (print): ~~Andy Thomson~~ Scott J. Johnson Title: ~~Safety Director~~ President

Signature: _____ Date: _____

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585 5252

SWORN STATEMENT
PURSUANT TO SECTION 287.133(3)(a),FLORIDA STATUES,
ON PUBLIC ENTITY CRIMES

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

1. This sworn statement is submitted to Town of Jupiter Utilities
[print name of the public entity]

by Scott J. Johnson President
[print individual's name and title]

for Johnson-Davis Inc.
[print name of entity submitting sworn statement]

whose business address is
604 Hillbrath Drive. Lantana, FL 33462

and (if applicable) its Federal Employer Identification Number (FEIN) is:
59-1753888
(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn Statement:
_____.)

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

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

4. I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), **Florida Statutes**, means:

    1. A predecessor or successor of a person convicted of a public entity crime: or

    2. An entity under the control of any natural person who is active in the

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

5. I understand that a "person" as defined in Paragraph 287.133(1)(e), **Florida Statutes**, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

6. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement. **[indicate which statement applies.]**

_X_ Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity, has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in public interest to place the entity submitting this sworn statement on the convicted vendor list.
[attach a copy of the final order]

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585 5252

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED, I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

_____
[signature]

Sworn to and subscribed before me this 26 day of July 2016,

.

Personally known ✓

OR Produced identification _____ Notary Public - State of Florida
(Type of identification)

My commission expires 01.22.2018

LARISA DITU PELKEY
MY COMMISSION # FF 056341
EXPIRES: January 22, 2018
Bonded Thru Budget Notary Services

_____
(Printed typed or stamped commissioned name notary public)

TRENCH SAFETY

The Bidder, by virtue of signing the Bid Form, affirms that the Bidder is aware of the Trench Safety Act (Chapter 90-96 of the Laws of Florida) effective Oct. 1, 1990, and will comply with all applicable trench safety standards. Such assurance shall be legally binding on all persons employed by the Bidder and subcontractors.

The Bidder is also obligated to identify the anticipated method and cost of compliance with the applicable trench safety standards.

Bidder acknowledges that included in the various items of the proposal and in the total bid price are costs for complying with the Florida Trench Safety Act. These items are a breakout of the respective items involving trenching and will not be paid separately. They are not to be confused with bid items in the schedule of prices, nor be considered additional work.

The Bidder further identifies the costs and methods summarized below:

Description	Unit	Quantity	Unit Price	Extended Price
Trench Excavation	LF			
Shoring	SF			
Trench Box				
Other:	LS	Shielding or Shoring	500⁻	500⁻
Total				$ 500⁻

Work will vary by separate Authorization so measures will vary also.

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

Failure to complete this certification and include with the Bid may result in the Bid being declared non-responsive.

By: Scott J. Johnson, President

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, Johnson-Davis, Incorporated (hereinafter called the Principal), and Liberty Mutual Insurance Company (hereinafter called the Surety), a Corporation chartered and existing under the laws of the State of Massachusetts with its principal offices in the City of Boston, MA and authorized to do business in the State of Florida, and the Town of Jupiter, and having an Agent resident therein, such Agent and Company acceptable to the Town of Jupiter, are held and firmly bound unto the Town of Jupiter (hereinafter called Owner), in the sum of Twenty Thousand and 00/100 ********** Dollars ($20,000.00); good and lawful money of the United States of America, to be paid upon demand of the said Owner, to which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally and firmly by these presents.

WHEREAS; the above bounded Principal contemplates submitting or has submitted a proposal to the said Owner for furnishing all necessary labor, materials, equipment, machinery, tools, apparatus, services, all State Workmen's Compensation, and Unemployment Compensation Taxes incurred in the performance of the contract, and means of transportation for:

Unit Price Contract for

Stormwater Utility Infrastructure Repairs

(S1628)

for said Owner, and;

WHEREAS; the Principal desires to file this Bond in accordance with law, in lieu of a certified Bidder's check otherwise required to accompany this Proposal in the amount of five percent (5%) of $400,000.00 ($20,000.00).

NOW THEREFORE, the conditions of this obligation are such that if the Proposal be accepted the Principal shall within fifteen (15) days after receipt of notification of the acceptance thereof, execute a contract in accordance with the Proposal and upon the terms, conditions and price set forth therein, in the form and manner required by the Owner and execute sufficient and satisfactory Performance Bond payable to the Town of Jupiter, Florida each in an amount of one hundred percent (100%) of the total contract price, as indicated in the Proposal, in form and with security satisfactory to the said Owner, then this obligation to be void, otherwise to

be and remain in full force and virtue in law; and the Surety shall upon failure of the Principal to comply with any or all of the foregoing requirements within the time specified above immediately pay to the aforesaid Owner upon demand the amount hereof in good and lawful money of the United States of America, not as a penalty but as liquidated damages.

IN WITNESS WHEREOF, THE said, Johnson-Davis, Incorporated as "Principal" herein has caused these presents to be signed in its name, by its _____ under its corporation seal, and the said Liberty Mutual Insurance Company as "Surety" herein, has caused these presents to be signed in its name by its, and attested by its , under its corporate seal, this 21st day of July, A.D. 2016.

ATTEST:

Chris Johnson Sec/Treas

(Principal)

Johnson-Davis, Incorporated

BY:

ATTEST:

Liberty Mutual Insurance Company

Ben Stone
(Surety Witness)

BY:

Maria Signorile
(Surety) Attorney-in-Fact

BY:

(Attorneys-in-Fact who sign this bond must file with it a certified copy of their power-of-attorney to sign said Bond).

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7350729

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

JOHNSON-DAVIS, INC.
604 Hillbrath Drive
Lantana, FL 33462
Phone (561) 588-1170
Fax (561) 585-5252

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, James F. Dunn; Maria Signorile; Wesley P. Williams

all of the city of Atlanta, state of GA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 29th day of April, 2016.

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 29th day of April, 2016, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 21st day of July, 2016.

By: _____
Gregory W. Davenport, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

LMS_12873_122013

CONTRACTOR:

Johnson-Davis Inc.

PROJECT NAME:

Seminole Blvd/ Osceola Dr. Bridge

PROJECT DESCRIPTION:

Demolition of existing bridges
Replacement with new 66" culvert w/ concrete headwalls @ Seminole Blvd
Relocation of 12" Raw WM, 6" WM, 4" FM @ Seminole Blvd
Construction of new pedestrian bridge @ Osceola Dr.

LOCATION OF PROJECT:

Seminole and Osceola Dr. in Westgate WPB

OWNER'S NAME AND ADDRESS:

Palm Beach County- 2300 N Jog Rd, WPB, FL 33411

OWNER'S REPRESENTATIVE AND ROLE:

Steve O'Neil- Construction Coordinator

OWNER'S REPRESENTATIVE PHONE:

561-644-4178

TYPE OF PROJECT (NEW OR REHAB):

New

PROJECT DURATION (NOTICE TO PROCEED – FINAL COMPLETION):

180 days

YEAR COMPLETED:

2014

ORIGINAL CONTRACT AMOUNT/FINAL CONTRACT AMOUNT:

$594,379 / $599,546.68

AMOUNT OF CHANGE ORDERS AND COST:

$5,167.68

CONTRACTOR:

Johnson-Davis Inc.

PROJECT NAME:

CR A1A Jupiter Beach Rd. to US 1

PROJECT DESCRIPTION:

Installation of water, sewer, drainage, and dry utilities for new street scope and bike lines

LOCATION OF PROJECT:

A1A and US 1 in Jupiter

OWNER'S NAME AND ADDRESS:

Town of Jupiter 210 Military Trail, Jupiter, FL 33458

OWNER'S REPRESENTATIVE AND ROLE:

Thomas Driscoll, Town of Jupiter Engineer

OWNER'S REPRESENTATIVE PHONE:

561-741-2215

TYPE OF PROJECT (NEW OR REHAB):

New

PROJECT DURATION (NOTICE TO PROCEED – FINAL COMPLETION):

11 Months

YEAR COMPLETED:

2015

ORIGINAL CONTRACT AMOUNT/FINAL CONTRACT AMOUNT:

$3,699,744.00

AMOUNT OF CHANGE ORDERS AND COST:

$0

JOHNSON DAVIS INC.

604 Hillbrath Drive, Lantana FL 33462

561-588-1170

COMPLETED PROJECTS

Project Name	Sarno lakes Phase II
Final Contract Amount	$3,158,963.00
Description of Project	Construction of a master drainage system to relieve flooding in the Sarno Lakes area of Brevard County. 696lf 48" C.I.P.P liner was installed beneath I95 to provide corrosion protection for steel casing. Liner Subcontractor; Layne Inliner
Type of Contract	Prime Contractor
Owner	Brevard County B.O.C.C
Address	2725 Judge Fran Jamieson Way Viera, FL 32940
Contact	Bach V. McClure P.E 321-633-2016 bach.mcclure@brevardcounty.us

JOHNSON DAVIS INC.
604 Hillbrath Drive, Lantana FL 33462
561-588-1170

COMPLETED PROJECTS

Project Name	Kirk Road Bridge over LWDD L-9 Canal
Final Contract Amount	$600,618.00
Description of Project	Removal of an exisiting structure and replacement with Box culvert. The project involved extensive M.O.T traffic detours and utility relocation.
Type of Contract	Prime contractor
Owner	Palm Beach County B.O.C.C
Address	301 N Olive Ave # 1201, West Palm Beach, FL 33401
Contact	Mr. John Kopelakis Chief Const. Coordinator Ph:561684-4180 Jkopelak@pbcgov.org

JOHNSON DAVIS INC.

604 Hillbrath Drive, Lantana FL 33462

561-588-1170

COMPLETED PROJECTS

Project Name	E4M88- R2
Final Contract Amount	$999,451.00
Description of Project	Drainage maintenance contract for Florida Department of Transportation District Four repair and installation of storm drainage facilities. C.I.P.P liner installed on three work orders by three liner subcontractors
Type of Contract	Prime contractor
Owner	FDOT District 4
Address	3400 W. Commercial Blvd. Ft Lauderdale FL 33309
Contact	Mike Dawson Ph: 561-370-1156 Michael.Dawson@dot.state.fl.us Jorge Corrales Ph: 954-777-4657 Jorge.Corrales@dot.state.fl.us

JOHNSON DAVIS INC.

604 Hillbrath Drive, Lantana FL 33462

561-588-1170

COMPLETED PROJECTS

Project Name	Stormwater CMP Replacement Town of Palm Beach
Final Contract Amount	$576,389.00
Description of Project	Storm drainage repairs at multiple locations with the Town of Palm Beach, complete restoration, traffic control and bypass pumping were included in the project
Type of Contract	Prime contractor
Owner	Town of Plam Beach Public Works
Address	951 Old Okeechobee Road, West Palm Beach, FL 33409
Contact	Mr. Mike Roach P.E Ph: 561-838-5440 Project Manager Mr. Henry Glaus P.E Project Manager Mock Roos & Assc. Ph: 561-683-3113

TRUCK TRACTORS, DUMP TRUCKS, FLAT BEDS

Equip No.	Manuf.	Model	Description	Serial Number	Year	GVW
45-104	Kenworth	T 800 B	Tandem Truck Tractor	1XKDD29X2 VJ743640	1997	80,000
45-115	Kenworth	T 800	Single Axle Truck Tractor	1XKDA98X6WJ763765	1998	73,000
45-117	Kenworth	W 900	Tri-Axle Truck Tractor	1XKWD29X3WJ771862	1998	80,000
45-128	Kenworth	T 800	24' Flat Bed	1NKDLA9X9VR734944	1997	64,000
45-164	Kenworth	T 800	Tri-Axle Dump - Steel Body	1NKDLUOX23J386270	2003	70,000
45-249	Kenworth	T800	Tri-Axle Truck Tractor	1XKDP4EX7DJ357433	2013	80,000
80-191	Ford	F-550	Service Truck	1FDAF57P56EC52918	2006	19,500
80-163	Ford	F 350 XLT Ex	4x4 Super Cab	1FTSX31F23EA55212	2003	10,500
80-135	Ford	F - 550	Super Duty 4x4 Mech.'s truck	1FDAF57F4YEB89787	2000	19,500
80-257	DODGE	RAM 5500	SERVICE TRUCK	3C7WRNCL9DG569047	2013	19,500
82-145	Reo	M35A2	6x6 Water Truck	12511113	1970	Diesel
82-157	Reo	M35A2	6x6 Water Truck	NK0044T-0540-10998	1970	Diesel
82-269	Am.Gen.		2-1/2 ton 6x6 Army truck	88K277 1040-11193	1988	Diesel

TRAILERS

Equip. Number	Manufacturer	Length	Description	Serial Number	Year
40-04	Witco Challenger		8' Wide Lowboy	ZZZS224D89000RG50	1984
40-05	Dorsey		Aluminum Dump	1DTD18B25EP017412	1984
40-07	Fruehof	45 foot	Flat Bed	FWV472605	1979
40-11	Rayside	12 foot	Crew / Tool and Fuel	RTT425	1985
40-12	Utility	45 foot	Drop Deck	1UYFS2454GA425801	1985
40-13	Great Dane	42 foot	Flat Bed	707841	1971
40-17	Fontaine	44 foot	Flat Bed	13643	1970
40-23	Vulcan	45 foot	Flat Bed (with head board)	1LZF45201E1001467	1994
40-24	Borco	26 foot	Steel Dump	1B9DS2727SP313014	1995
40-26	Hardee	26 foot	Aluminum Dump	1H9ACD624B4127175	1997
40-27	Fontaine		10' wide lowboy	4LF4S8058V3505592	1997
40-28	Fontaine	30 foot	Jeep for lowboy	4LF3N2623V3505593	1997
40-29	ASPT	12 foot	Sock Trailer	FLT8092BB	1989
40-32	Fontaine		Lowboy - TB 50 NGB	4LF4R4730S3504134	02/01/95
40-33	Fontaine	48 foot	Extendable flat	13N-4482C-8-X1584935	02/01/99
40-34	Load Trail	24 foot	Flat Trailer	5L8PH242561002996	01/03/06
40-35	Great Dane	48 foot	Flat Trailer	1GRDM96296H700134	05/15/06
40-36	Load Trail	20 foot	Equipment Trailer	4ZECF202361023036	07/14/06
40-37	Load Trail	20 foot	Deck over Trailer, (flat)	5L8PH202961003106	07/14/06
40-38	KAUFMAN	23 Foot	Deck over Trailer flat	5VGFP2322DL003826	05/01/13
40-39	KAUFMAN	23 Foot	Deck over Trailer flat	5VGFP2324DL004847	09/03/13
40-40	Triple Crown Trailers 5' x 10'	2990 LB	700LB Utility Trailer	1XNU5X10471022637	10/16/2007

Mini Excavators

Equip No.	Manufacturer	Model	Serial Number	Year	Engine	Basic Weight
35-01	John Deere	650 H LGP	T065HX898018	2001	John Deere	19,100
35-27	Bobcat	873G	514147010	2001	Deutz BF 4M 1011F	7,330
35-41	Bobcat	T300	525415212	2005	Kubota	
35-61	Kubota	KX913R1S	30767	2010	Kubota	7200 LBS
35-62	Kubota	KX080-3	24675	2012	Kubota	19,026 lbs.
35-64	Kubota	KX913R2	41826	2012	KUBOTA	7,110 lbs.
35-66	Kubota	KX121-3ST	74888	5/13/2013	KUBOTA	9,063 LBS

Wheel Loaders

Number						Weight	
30-28	Volvo	L90D	L90DV65018	2001	Volvo 63NCBE	32,965	3 cubic yds.
30-30	John Deere	644 H	DW644HX587509	2004	6081HDW08 - - - Diesel	34,600	4 cubic yds.
30-31	Volvo	L90E	L90EV70867	2004	Volvo D6D LAE2	33,200	3 cubic yds.
30-32	Liebherr	L544	VATZ0443AZB011966	2006	D924 TI-E A2	32,930	4 cubic yards
30-33	Volvo	L70	L70EV60803	2006	Volvo D6D LBE2	24,714	2.5 cubic yarrds
30-34	Liebherr	L538	VATZ0432AZB014861	2006	D924 TI-E Lieb Diesel	27,116	3.27 cubic yards
30-35	Volvo	L120 E	L120EV66013	2006	Volvo	42,600	4.7 Cubic yards
30-36	Volvo	L90 E	L90EV67858	2006	Volvo	33,200	3 cubic yards
30-37	Volvo	L110 E	L110EV60387	2005	Volvo	44,090	4.1 cubic yards
30-38	Komatsu	WA 380-6	65858	2009	Komatsu	38,588	4.3 CU YARDS
30-39	Komatsu	WA 380-6	65939	2009	Komatsu	38,588	4.3 CU YARDS
30-40	Caterpillar	950H	CAT0950HVK5K02887	2010	Caterpillar	51,695	4.25 YARDS
30-42	Komatsu	WA-320-6	A35279	2012	Komatsu	31,052	3.7 YARDS
30-43	Komatsu	WA-380-7	A64171	2013	Komatsu	39,139	4.3 Cu. Yards
30-44	Komatsu	WA-200-PZ-6	71678	2013	Komatsu	25,887	2.75 Cu. Yards
30-45	Komatsu	WA-320-7	80194	2013	Komatsu	36,376	3.5 Cu Yards
30-46	Caterpillar	938 K	SWL01382	2013	Caterpillar	35,104	3.5 Cu Yards
30-47	Komatsu	WA-200-7	80392	2015	Komatsu	26,070	4 CU Yards
30-48	Komatsu	WA-380-8	A74013	2015	Komatsu	40,693	4 CU Yards

Backhoe / Loader

Equip. No.	Manufacturer	Model	Serial Number	Year	Engine	Basic Weight	Bucket
25 - 51	Caterpillar	420D IT	BLN11885	2005	Caterpillar	15,772 lbs.	1.31 Yard
25 - 52	Caterpillar	430D IT	BMLO5166	2005	Caterpillar	16,217 lbs.	1.5 Yard
25-67	Caterpillar	420F IT	CAT420FHJWJ01695	2013	Caterpillar		

EXCAVATORS

Equipment Number	Manufacturer	Model	Serial Number	Year	Engine	Basic Weight
20-37	Liebherr	R934 HDSL litronic	648 - 5051	1999	Liebherr	63,500 lbs
20-39	Inter - Drain	6050 HT	D97022	1997	Volvo	66,500 lbs
20-40	Liebherr	R912 HDSL litronic	417-4205	1999	Liebherr	51,300 lbs
20-44	Liebherr	R944 HDSL litronic	651-8110	2002	Liebherr	77,500 lbs
20-45	Liebherr	R924 HDSL litronic	645-8931	2002	Liebherr	55,850 lbs
20-47	Liebherr	R944 HDSL litronic	651-9831	2002	Liebherr	77,200 lbs.
20-48	Liebherr	R944 B HDSL Lit.	651-12535	2003	Liebherr	84,500 lbs
20-49	Liebherr	R934 B HDSL Lit.	924-12558	2003	Liebherr	67,000 lbs
20-50	Liebherr	R934 B HDSL LIT.	924-13441	2004	Liebherr	71,000 lbs
20-53	Liebherr	R944 B HDSL LIT.	651-14648	2005	Liebherr	84,500 lbs
20-54	Liebherr	R934 B HDSL LIT.	924-13720	2005	Liebherr	71,000 lbs
20-55	Liebherr	R954 C HD Litronic	976-18694	2006	Liebherr	125,500 lbs.
20-56	Komatsu	PC308 USLC - 3EO	30099	2007	Komatsu	71,000 lbs.
20-57	Liebherr	A 912 Litronic	419-5100	1997	Liebherr	32,780 lbs.
20-59	Caterpillar	328D	CAT0328DCGTN00603	2010	CAT	76,500 lbs.
20-60	Caterpillar	336D	CAT0336DE W3K01174	2010	CAT	89,000 lbs.
20-63	JOHN DEERE	220D JOHNDEERE	1FF220DWHBD41148	2012	Isuzu	52,300 lbs
20-65	Komatsu	PC 360-LC-10	70101	2013	Komatsu	77,500 lbs
20-68	Komatsu	PC 390-LC-10	KMT-PC242L54A30203	2014	Komatsu	90,372 lbs.
20-69	Komatsu	PC 240-LC-11	A95106	2015	Komatsu	55000 lbs
20-70	Komatsu	PC 390-LC-11	A30425	2015	Komatsu	91712 lbs

DEWATERING PUMPS

Equip Number	Description	Size	Manufacturer	Year	Serial No.	Engine
10-01	Wellpoint Pump	10"	Complete	1975	C.M.E.7105	Deutz - 6 cyl Diesel
10-03	Wellpoint Pump	10"	Complete	Late 1970's	C.M.E.7568	Deutz - 6 cyl Diesel
10-11	Wellpoint Pump	10"	Complete	Late 1970's	C.M.E.7130	Deutz - 6 cyl Diesel
10-13	Wellpoint Pump	6"	Complete	Late 1970's	JD 781013	Deutz - 3 cyl Diesel
10-16	Wellpoint Pump	10"	Complete / J-D	1980's	C.M.E. 8460	Deutz - 6 cyl Diesel
10-19	Wellpoint Pump	10"	Complete	1980's	C.M.E. 7505	Deutz - 6 cyl Diesel
10-20	Wellpoint Pump	10"	Complete	1980's	C.M.E. 8334	Deutz - 6 cyl Diesel
10-26	Hydraulic Pump	8"	M & W	1980's	C.M.E. 5654	Deutz - 4 cyl Diesel
10-28	Jet Pump	4"	Thompson	1980's	6J66	Deutz - 6 cyl Diesel
10-30	Double Diaphragm	4"	Thompson	1980's	4DDL335	Lombardini - 1 cyl Diesel
10-31	Wellpoint Pump	10"	Complete / J-D	1994	JD946068	John Deere 6cyl Diesel
10-33	Wellpoint Pump	6"	Johnson - Davis	1995	6951033	Deutz - 5 cyl Diesel
10-35	Wellpoint Pump	8"	Holland	1995	US97362X	Perkins - 4 cyl Diesel
10-36	Hydraulic Pump	4"	Holland	1994	H-25-D-349	Perkins - 4 cyl Diesel
10-38	Wellpoint Pump	8"	Holland	1995	U640528Y	Perkins - 4 cyl Diesel
10-40	Jet Pump	4"	Thompson	1994	4J - 136	Lombardini - 4 cyl Diesel
10-41	Wellpoint	8"	Holland	1995	H-40WPLR-D-139	Perkins - 4 cyl Diesel
10-42	Wellpoint	10"	Complete	1997	C.M.E. 8158	John Deere - 6 Cyl Diesel

Updated 4/04/2011

DEWATERING PUMPS

	Description	Size	Manufacturer	Year	Serial No.	Engine
10-44	Trash Pump	6"	Complete	1998	C.M.E. 8226	Deutz 4 cyl Diesel
10-45	Jet Pump	4"	Complete	2000	C.M.E. 8291	John Deere - 4 Cyl. Diesel
10-46	Wellpoint	8"	Complete	2002	C.M.E. 9037	John Deere - 4 Cyl Diesel
10-48	Trash Pump	6"	Complete	2003	C.M.E. 9064	John Deere - 4 Cyl Diesel
10-49	Wellpoint	8"	Complete	2003	C.M.E. 9065	John Deere - 4 Cyl Diesel
10-50	Hyd Pump	4"	MWI	2003	2657	Deutz - 3 Cyl Diesel
10-51	Jet Pump on Wheels	4"	MWI	2004	4219	John Deere 4 Cyl Diesel
10-52	Wellpoint Pump	8"	Complete	2005	C.M.E. 9159	John Deere 4 Cyl Diesel
10-53	Jet / Wellpoint Pump	4"	JD, Inc.	2005	JD 4912	Deutz F6l912 6 cyl Diesel
10-54	Wellpoint Pump	8"	Complete	2006	C.M.E. 9181	John Deere - 4 Cyl Diesel
10-55	Hyd Pump	12"	Holland	2006	D12S-6068T-1210	John Deere - 6 Cyl Diesel
10-56	Hyd pump	8"	MWI	2004	325	John Deere - 6 Cyl Diesel
10-57	Wellpoint pump	8"	MWI	2008	9175	Kubota diesel - 4 cyl.
10-58	Wellpoint pump	10"	Complete	2010	9293	6 Cylinder Deutz
10-59	Wellpoint pump	10"	Complete	2010	9292	6 Cylinder Deutz
10-60	HYD PUMP	4"	Sloan Pump	1995	1442C	4 Cylinder Perkins
10-61	HYD PUMP	4"	Griffin Pump	1995	708	4 Cylinder Perkins
10-62	Wellpoint Pump	8"	Complete	2009	9220	4 Cylinder Deutz
10-63	Wellpoint Pump	8"	Complete	2008	9239	4 Cylinder Yanmar
10-64	Hydraulic pump	4"	Thompson	1995	4HS-2	MWM 4 Cylinder Diesel
10-65	Piston pump	6"	Thompson	2009		Hatz 1 cylinder diesel
10-66	Hydraulic pump	10"	Thompson			John Deere 6cyl diesel
10-67	Hydraulic pump	6"	Mac Pumps		627	4 cylinder Perkins
10-68	Hydraulic pump	3"	F.P. Manuf.	1995	F.P. 8-20	4 cylinder Deutz

SMALL PUMPS

12 - 24	Test Pump	¾"	Hypro	1984		----------	Briggs / Stratton
12 - 29	Test Pump	¾"	Rice	1991		----------	Briggs / Stratton
12 - 30	Diaphragm	3"	Homelite	1987		8511714	Briggs / Stratton
12 - 32	Diaphragm	3"	CH & E	1990		----------	Briggs / Stratton
12 - 38	Test	1-1/2"	Hypro / Johnson	1996		----------	Deutz
12 - 39	Trash	3"	Multiquip	1995	QP301TH	5169QP301TH	Honda
12 - 41	Trash	3"	Multiquip	1999	QP301TH	301TH11028	Honda
12 - 43	Test Pump	¾"	Hypro / J-D	1999	9910-D60		Honda
12 - 45	Trash Pump	3"	Multiquip	2000	QP301TH	301TH-13625	Honda GX240
12 - 46	Hydrostatic Test Pump	¾ "	Rice	2000		15794	Honda GX160
12 - 48	Trash Pump - 50-145	3"	Multiquip	2001	QP301TH	301TH-11766	Honda GX240
12-49	Hydrostatic Test Pump	3/4"					
12 - 50	Trash Pump	3"	Multiquip	7/1/03	QP301TH	18525	Honda GX240
12 - 51	Trash Pump	3"	Multiquip	7/1/03	QP301TH	PO24777	Honda GX240
12 - 52	Trash Pump	3"	Multiquip	7/1/03	QP301TH	PO24778	Honda GX240
12 - 53	Trash Pump	4"	Multiquip	7/1/03	QP402H	0274	Honda
12 - 54	Double Diaphargm pump	4"	Thompson	7/19/2012			Hatz

Crew Trucks

Equip. Number	Manufact.	Model	Description	Serial Number	Year	Engine
50-160	International	4800	4x4 Sock Truck	1HTSEAAN4SH675724	1996	Diesel
50-205	Ford	Freestar	Passenger Van	2FMZA52296BA17673	2006	4.0 L Gasoline
50-207	Dodge	3500	1 Ton 4x4 flat bed	3D6WH46A67G759973	2007	Cummins diesel
50-215	Chrysler	Town & Country	Passenger Van	1A4GJ45R67B163464	2007	3.3 L V-6 Gasoline
50-217	Ford	F-250	4x4 Pickup	1FTSF21R18EB94195	2008	6.4 L V-8 diesel
50-222	Toyota	Corolla	4 Door Sedan	1NXBR32E18Z034473	2008	
50-226	Dodge	3500	1 Ton 4x4 flat bed	3D6WH46A98G105440	2008	Cummins diesel
50-230	Jeep	Patriot	Patriot Sport	1J8FT28028D783501	2008	2.0 L4 Cylinder
50-233	TOYOTA	COROLLA	4 Door Sedan	1NXBU4EE0AZ187903	2010	
50-234	HYUNDAI	ELENTRA	4 Door Sedan	KMHDU46D9U773824	2010	
50-235	CHEVY	SILVERADO	2500 4WD	1GCHK44639F181544	2009	6.6L
50-236	GMC	SIERRA	1500 2WD REG CAB	1GTEC14XX9Z222922	2009	4.3L V-6
50-237	CHEVY	SILVERADO	2500 4WD REG CAB	1GCHK44609F182442	2009	6.6L
50-241	CHEVY	SILVERADO	2500 4WD REG CAB	1GC0KV89BF114183	2011	6.6L V8 DURAMAX
50-242	Chevy	SILVERADO	2500 4WD REG CAB	1GC0KVC8XBF128674	2011	6.6L V8 DURAMAX
50-243	Chevy	SILVERADO	1500 4WD EXT	1GCRKPE00BZ130023	2011	4.8L V8 SFI
50-244	Chevy	Silverado	1500 4WD Reg Cab	1GCNKPEA2BZ130595	2011	4.8L V8
50-246	DODGE	CARAVAN	SE MINIVAN	2C4RDGBG3CR131271	2012	3.6L V6
50-247	Dodge	Ram	2500 4WD Reg Cab	3C6LD5AL5CG228994	2012	6.7 L Cummins Diesel
50-248	Dodge	Ram	2500 4WD Reg Cab	3C6LD5AL8CG258684	2012	6.7 L Cummins Diesel
50-253	Dodge	3500	1 Ton 4x4 flat bed	3C7WDTBL7CG317431	2012	6.7L Cummins Diesel
50-255	Dodge	2500	Pickup Truck	3C6LR5AL8DG566909	2013	6.7L Cummins Diesel
50-256	Dodge	2500	Pickup Truck	3C6LR5AL5DG566124	2013	6.7L Cummins Diesel
50-258	Dodge	RAM 5500	Cab & Chassis 19,500	3C7WNCBL8CG339644	2012	6.7L Cummins Diesel

Crew Trucks

50-259	Dodge	Ram 2500	Pickup Truck 3/4 ton 4x4	3C6LR5AL7DG590988	2013	6.7L Cummins Diesel
50-261	Dodge	Grand Caravan	SE MINIVAN	2C4RDGBG7ER103170	2014	3.6L V6 24V V V T
50-262	Dodge	Grand Caravan	SE MINIVAN	2C4RDGBG3ER103165	2014	3.6L V6 24V V V T
50-264	Dodge	Ram 5500	Cab & Chassis 19,500	3C7WDNFL6CG260225	2012	6.7L Cummins Diesel
50-265	Dodge	Ram 2500	2500 Pickup Truck	3C6MRAL3EG197009	2014	6.7L Cummins Diesel
50-266	Dodge	Ram 2500	2500 Pickup Truck	3C6MR5AL1EG197008	2014	6.7L Cummins Diesel
50-267	Dodge	Ram 2500	2500 Pickup Truck	3C6MR5ALXEG204358	2014	6.7L Cummins Diesel
50-268	Dodge	Ram 2500	2500 Pickup Truck	3C6MR5AL8EG217156	2014	6.7L Cummins Diesel
50-272	FORD	F250	2500 PICKUP	FTBF2B68FEC41806	2015	6.2L V8 GAS ENGINE
50-275	DODGE	CARAVAN	VP MINIVAN	2C4RDGBG9FR635697	2015	3.6L V6 GAS ENGINE

LEVELING INSTRUMENTS ENGINEERING INSTRUMENTS

Equip No.	Manufacturer	Model	Type
60-14	Nikon	AZ - 1	AUTO LEVEL
60-19	Wild	NA - 20	AUTO LEVEL
60-20	Wild	NA - 20	AUTO LEVEL
60-21	Wild	AZ - 15	AUTO LEVEL
60-27	Leica / Wild	NA - 20	AUTO LEVEL
60-29	Leica / Wild	NA - 20	AUTO LEVEL
60-32	Leica / Wild	NA - 20	AUTO LEVEL
60-33	Leica / Wild	NA - 20	AUTO LEVEL
60-39	Topcon	AT - 22	AUTO LEVEL
60-45	Leica	NA - 720	AUTO LEVEL
60-47	CST / Berger	24 - X	AUTO LEVEL
60-63	TOP - JR	AT-24A	AUTO LEVEL
60-64	TOP - JR	AT-24A	AUTO LEVEL

LASERS ENGINEERING INSTRUMENTS

Equip No.	Manufacturer	Model	Type
60-04	Spectra - Physics	1150	Laser
60-28	Spectra - Physics	L1165	Dial - A - Grade Laser
60-34	Spectra - Physics	L1165	Dial - A - Grade Laser
60-35	Spectra - Physics	L1165	Dial - A - Grade Laser
60-38	Spectra - Physics	L1165	Dial - A - Grade Laser
60-40	Spectra - Physics	L1145 - 1	Laser Plane
60-41	Spectra - Physics	B23 - S D	Laser Plane
60-44	Spectra - Physics	1280 S	Dial - A - Grade Laser
60-46	Spectra - Physics	1280	Dial - A - Grade Laser
60-50	Spectra - Physics	1280/1285	Laser
60-51	Spectra - Physics	1280	Laser
60-54	Spectra - Physics	DG 711	Laser
60-55	Spectra - Physics	DG 711	Laser
60-61	Spectra - Physics	DG 711	Laser
60-62	Spectra - Physics	DG 711	Laser
60-65	Spectra - Physics	DG 711	Laser
60-66	Spectra - Physics	DG 711	Laser
60-67	Spectra - Physics	DG 711	Laser
60-68	Spectra - Physics	DG 711	Laser
60-69	Spectra - Physics	DG 711	Laser
60-70	Spectra - Physics	DG 711	Laser
60-71	Spectra -Physics	DG 711	Laser
60-72	CST Berger	LM PL20	Laser
60-73	CST Berger	LM PL20	Laser
60-74	CST Berger	LM PL20	Laser

NOTICE OF AWARD

TO: Johnson-Davis, Inc.
604 Hillbrath Drive
Lantana, FL 33462

ATT: Scott J. Johnson, President

Project: Unit Price Contract for Stormwater
Utility Infrastructure Repairs (S1628)
Town of Jupiter Utilities
Jupiter, Florida

Gentlemen:

This is to advise that on August 16, 2016 the Jupiter Town Council approved award of the Contract for the above referenced project as a result of your Unit Price bid submitted to the Town of Jupiter (Owner) on July 26, 2016.

Two (2) sets of the Project Manual for this project are attached. Each set contains an unexecuted agreement. Please sign both sets of the Agreement and include the following additional documentation necessary for execution of the Agreement/Contract.

- Two original signed and notarized Payment Bonds (on Bond form included with each project manual).
- Two original signed and notarized Performance Bonds (on Bond form included with each project manual).
- Four original Power of Attorneys; one each to accompany each Payment and Performance bond.
- Two current Certifications of Insurance naming the Town of Jupiter as an additional insured per the requirements of the contract.

Your attention is invited to the provision whereby your proposal guarantee may be forfeited in the event the Agreement with satisfactory Performance and Payment Bond attached is not executed and delivered to the Owner within fifteen (15) consecutive calendar days from August 26th, 2016.

Sincerely,

Amanda Barnes
Town of Jupiter
Assistant Utilities Director

AGREEMENT (CONTRACT)
BETWEEN OWNER AND CONTRACTOR

This Agreement (Contract) made this 20 (date) day of September (month), 2016 (year) by and between the Town of Jupiter, a public agency of the State of Florida hereinafter designated as the "the TOWN" and "OWNER", Johnson-Davis, Inc., 604 Hillbrath Drive, Lantana, FL 33462, a public agency Corporation 59-1753888 (FEID number) hereinafter designated as the "CONTRACTOR", in consideration of the mutual covenants hereinafter set forth agree as follows:

Article 1. WORK.

1.1 CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

Provide stormwater utility infrastructure repairs, replacements and/or installations on an as needed basis utilizing one or a combination of a number of unit price bid items. These items may include, but are not limited to: bypass pumping; realigning or replacing inlet/manhole castings; sealing and/or grouting storm water pipe joints; installing new manholes/conflict boxes/catch basins; pipe to structure connection repairs; storm water pipe point repairs; and restoring miscellaneous surface improvements such as asphalt roadway replacement, pavement overlay, concrete sidewalk replacement, concrete curb and gutter replacement, sod replacement, fence replacement and other improvements as described by the Project Documents.

1.2 The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows:

UNIT PRICE CONTRACT FOR STORMWATER UTILITY INFRASTRUCTURE REPAIRS (S1628) FOR TOWN OF JUPITER UTILITIES JUPITER, FLORIDA

Article 2. ENGINEER.

The Project has been designed by the following:

Town of Jupiter Utilities Department
210 Military Trail
Jupiter Florida 33458

The Town of Jupiter will administer the contract during the construction phase.

Article 3. CONTRACT TIME.

3.1. The Work will have a substantial completion date after the date when the Contract Time commences to run as provided in paragraph 2.03 of the General Conditions, and as outlined below. The work will be completed and ready for substantial and final payment in accordance with Article 14 of the General Conditions and as outlined below:

Substantial Completion:	730 calendar days from Notice to Proceed
Final Completion:	730 calendar days from Notice to Proceed

3.2 Unless extended or terminate, the period of performance of this CONTRACT shall commence upon the effective date of execution by the OWNER and continue for a period of 2 years or seven hundred and thirty calendar days (730 days). Written Notice to Proceed and Work Order duration will be mutually agreed upon by both the CONTRACTOR and OWNER and provided in Work Orders outlining work. The CONTRACTOR shall not proceed with work under this CONTRACT until a Work Order with written Notice to Proceed is received from the OWNER.

3.3 The initial term of the Contract will be two years (730 calendar days) from the date of Notice to Proceed. Owner may at Owner's sole discretion renew this Contract for one (1) additional two (2) year term and one (1) additional (1) year term for a total Contract period of five (5) years. It is solely the responsibility of the Contractor to initiate any renegotiation of the Unit Prices of the Contract sixty (60) days prior to the expiration date of the Contract. Failure to initiate renegotiation of rates sixty (60) days prior to the expiration date will result in the continuation of the Unit Prices in the Contract until the next expiration date. Owner reserves the right to terminate negotiations and continue work under existing rates or terminate the Contract. Regardless of anything to the contrary, this Contract may be terminated by the Owner at any time and for any reason. Further, the Contractor agrees that it will not be entitled to any claims and/or damages resulting from such termination, including, but not limited to, lost profits, direct or indirect damages, and consequential special or punitive damages.

3.4 The parties agree that the TIME IS OF THE ESSENCE, in the performance of each and every obligation under this CONTRACT. The CONTRACT may be changed only by a change order to the CONTRACT Work Order amendments to individual Work Orders must be completed in writing and signed and dated by Contractor and Owner.

3.5. Liquidated Damages. OWNER and CONTRACTOR recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not substantially complete within the time specified in paragraph 3.1 and in

individual works orders above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense and difficulties involved in proving in a legal or arbitration preceding the actual loss suffered by OWNER if the Work is not substantially complete on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that as liquidated damages for delay (But not as a penalty) CONTRACTOR shall pay OWNER Two Hundred and Fifty and 00/100 dollars ($250.00) for each day that expires after the time in each individual work order as the completion date of each work order, and Five Hundred dollars ($500.00) for each day that expires after the time specified in Paragraph 3.1 for the date of final completion of the Contract. Final completion includes demobilization from the site. Owner may withhold payment to compensate for liquidated damages either by increasing the amount of money being held in retainage or deducting the amount due in Liquidated Damages from the final payment application.

3.6 This provision of Liquidated Damages for delay shall in no manner affect the TOWN's right to terminate the CONTRACT. The OWNER'S exercise of the right to terminate shall not release the CONTRACTOR from his obligation to pay Liquidated Damages. It is further agreed that the OWNER may deduct from the balance of the CONTRACT sum held by the OWNER the Liquidated Damages stipulated herein or such portions as said balance will cover.

Article 4. CONTRACT PRICE.

4.1 OWNER shall pay CONTRACTOR for performance of the Work in accordance with the Contract Document in current funds accordance to the Proposal Unit Prices.

4.2 No guarantee is expressed or implied as to the total quantity of commodities/services to be purchased under any open end Contract. Estimated quantities will be used for Bid comparison purposes only. The Owner reserves the right to issue Work Orders as and when required for proposed work for any or all bid items or any combination thereof. Work under this Contract is subject to fiscal appropriation by the Jupiter Town Council in either or both the Town's Community Investment Program (CIP) and fiscal year operating budgets. Estimated funding budgets anticipated being available for the original two year contract term and subsequent two year and one year renewal terms are provided in the table below.

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Anticipated Estimated Annual Funding

Town of Jupiter Utilities

Unit Price Contract for Stormwater Utility Infrastructure Repairs (S1628)

Year	Project Description	Estimated Value	
2016/2017	Miscellaneous Stormwater Repairs	$200,000	
2017/2018	Miscellaneous Stormwater Repairs	$200,000	
	Estimated Initial 2 Year Contract Term Total		**$400,000**
2018/2019	Miscellaneous Stormwater Repairs	$200,000	
2019/2020	Miscellaneous Stormwater Repairs	$200,000	
	Estimated 2 Year Contract Term Extension Total		**$400,000**
2020/2021	Miscellaneous Stormwater Repairs	$200,000	
	Estimated 1 Year Contract Term Extension Total		**$200,000**
	Estimated 5 Year Total		**$1,000,000**

Article 5. PAYMENT PROCEDURES.

5.1 Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for payment will be processed by OWNER as provided in the General Conditions.

5.2 The undersigned, acknowledges that payments made by the Town of Jupiter will be made via electronic funds transfer (EFT) and vendor will provide the Town of Jupiter with the information required to make EFT payments.

5.3 Progress Payments. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment within 30 days of receipt of each monthly approved application for payment during construction as provided below. All progress payments will be on the basis of the progress of the Work measured by the agreed upon schedule of values provided for in paragraph 14.01 of the General Conditions.

5.4. Prior to 50% Completion of the work progress payments will be in an amount equal to: 90% of the Work completed, and 90% of materials and equipment not incorporated in the Work but delivered and suitably stored, less in each case the aggregate of payments previously made.

5.5. Upon 50% completion of work, OWNER, will pay an amount sufficient to increase total payments to CONTRACTOR to 95% of the Work Order Price. OWNER may elect to withhold a greater percentage if work is determined, by OWNER, to be insufficient or incomplete until Final Completion.

5.6. Upon achievement of Substantial Completion of individual Work Orders

CONTRACTOR may request, in writing, that total payments be increased to 98% of the Work Order price. OWNER may or may not approve this request at their own discretion.

5.7. Final Payment. Upon final completion of an individual Work Order and acceptance of the Work in accordance with paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Work Order Price as provided in said paragraph 14.07 unless liquidated damages are due.

Article 6. INTEREST. Not applicable.

Article 7. CONTRACTOR'S REPRESENTATIONS.

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

7.1. CONTRACTOR has familiarized himself with the nature and extent of the Contract Documents, Work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress or performance of the Work.

7.2. CONTRACTOR has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Work which were relied upon by ENGINEER in the preparation of the Drawings and Specifications and which have been identified in the Supplementary Conditions.

7.3. CONTRACTOR has made or caused to be made examinations, investigations and tests and studies of such reports and related data in addition to those referred to in paragraph 7.2 as he deems necessary for the performance of the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by CONTRACTOR for such purposes.

7.4. CONTRACTOR has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.

7.5. CONTRACTOR has given OWNER written notice of all conflicts, errors or discrepancies that he has discovered in the Contract Documents and the written resolution thereof is acceptable to CONTRACTOR.

Article 8. CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR are attached to this Agreement, made a part hereof and consists of the following:

8.1. Index
8.2. Table of Contents-Specifications
8.3. Advertisement for Bids
8.4. Instructions to Bidders
8.5. Proposal
8.6. Sworn Statement
8.7 Safety Qualification Form
8.8. Bid Bond
8.9. Trench Safety
8.10. Notice of Award
8.11. This Agreement (pages 41 to 47, inclusive)
8.12. Payment and Performance Bonds
8.13. Opinion of Town Attorney
8.14. Notice to Proceed
8.15. General Conditions (pages 0 to 41, inclusive)
8.16. Supplementary Conditions (pages 1 to 7, inclusive)
8.17. Any Modifications, including Change Orders, duly delivered after execution of Agreement.
8.18. Technical Specifications (including Appendix) bearing the title:
Unit Price Contract for Stormwater Utility Repairs (S1628)

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be altered, amended or repealed by a Modification (as defined in Section 1 of the General Conditions).

Article 9. MISCELLANEOUS

9.1. Terms used in this Agreement which are defined in Article 1 of the General Conditions shall have the meanings indicated in the General Conditions.

9.2. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.3. OWNER and CONTRACTOR each binds himself, his partners, successors, assigns and legal representatives to the other party hereto, his partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

9.4 The Inspector General of Palm Beach County has the authority to investigate and audit matters relating to the negotiation and performance of this Contract and in furtherance thereof may demand and obtain records and testimony from the Contractor and its subcontractors and lower tier subcontractors. The Contractor understands and agrees that in addition to other remedies and consequences

provided by law, the failure of the Contractor or its subcontractors or lower tier subcontractors to fully cooperate with the Office of Inspector General of Palm Beach County when requested may be deemed by the municipality to be a material breach of this contract justifying its termination. The Office of Inspector General in Palm Beach County is established by Palm Beach County Code, Section 2-421 - 2-440. Failure to cooperate with the Inspector General or interfering with or impeding any investigation shall be in violation of Palm Beach County Code, Section 2-421 – 2-440, and be punished pursuant to Section 125.69, Florida Statutes, in the same manner as a second degree misdemeanor.

9.5 The risk of loss or destruction to the project, or any Work Order or portion and/or element thereof, regardless of the cause of the casualty, shall be borne solely by the CONTRACTOR until all goods and materials to be used in the work are incorporated into the Project/Work Order at the Project/Work Order site for its intended purpose and use and final inspection, acceptance and payment for the Project/Work Order has been made by the OWNER. Title to the goods shall pass to the OWNER upon delivery and final acceptance of the entire Project/Work Order by the OWNER, notwithstanding the fact that periodic payments may have been made during the course of the CONTRACT.

IN WITNESS WHEREOF, the parties hereto have signed two (2) copies of this Agreement. At least one counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR.

OWNER

Town of Jupiter
210 Military Trail
Jupiter, FL 33458

By:

Todd Wodraska, Mayor

ATTEST

Sally Boylan, Town Clerk

(TOWN SEAL)

CONTRACTOR

Johnson-Davis, Inc.
604 Hillbrath Drive
Lantana, FL 33462

Scott J. Johnson, President

(CORPORATE SEAL)

ATTEST

PRINT NAME AND POSITION

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That Johnson-Davis, Inc. as Principal, hereinafter called Contractor, and legal title of Liberty Mutual Insurance Company as Surety, hereinafter called Surety, are held and firmly bound onto Town of Jupiter as Obligee, hereinafter called Owner, in the amount of Four Hundred Thousand dollars and 00/100 ($400,000.00) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Contractor has by written agreement dated September 20, 2016, entered into a contract with Owner for the Unit Price Contract for Stormwater Utility Infrastructure Repairs (JW 10-37) plans and specifications prepared by Town of Jupiter which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly make payment to all claimants as hereinafter defined, for all labor and material used or reasonably required for use in the performance of the Contract, then this obligation shall be void; otherwise it shall remain in full force and effect, subject, however, to the following conditions:

1. A claimant is defined as one having a direct contract with the Principal or with a Subcontractor of the Principal for labor, material, or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental of equipment directly applicable to the Contract.

2. The above named Principal and Surety hereby jointly and severally agree with the Owner that every claimant as herein defined, who has not been paid in full before the expiration of a period of ninety (90) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant, prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon. The Owner shall not be liable for the payment of any

costs or expenses of any such suit.

3. No suit or action shall be commenced hereunder by any claimant:

   a. Unless claimant, other than one having a direct contract with the Principal, shall have given written notice to any two of the following: the Principal, the Owner, or the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the Principal, Owner or Surety, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the State in which the aforesaid project is located, save that such service need not be made by a public officer.

   b. After the expiration of one (1) year following the date on which Principal ceased Work on said Contract, it being understood, however, that if any limitation embodied in this bond is prohibited by any law controlling the construction hereof such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

   c. Other than in a State Court of competent jurisdiction in and for the County or other political subdivision of the State in which the Project, or any part thereof, is situated, or in the United States District Court for the district in which the Project, or any part thereof, is situated, and not elsewhere.

4. The amount of this bond shall be reduced by and to the extent of any payment or payments made in good faith hereunder, inclusive of the payment by Surety of mechanics' liens which may be filed of record against said improvements, whether or not claim for the amount of such lien be presented under and against this bond.

5. This bond is issued in compliance with Section 255.05, Florida Statutes (1987), as may be amended. A claimant, except a laborer, who is not in privity with the contractor and who has not received payment for his labor, materials, or supplies shall, within 45 days after beginning to furnish labor, materials, or supplies for the prosecution of the work, furnish the contractor with a notice that he intends to look to the bond for protection. A claimant who is not in privity with the contractor and who has not received payment for his labor, materials, or supplies shall, within 90 days after performance of the labor or after complete delivery of the materials or supplies, deliver to the contractor and to the surety written notice of the performance of the labor or delivery of the materials or supplies and of the nonpayment. No action for the labor, materials, or supplies may be instituted against the contractor or the surety unless both notices have been given. No action shall be instituted against the contractor or the surety on the bond after 1 year from the performance of the labor or completion of delivery of the materials or supplies.

Signed and sealed this 20 day of September, 2016

Witness

Larissa Dith Pelkey

Principal (Seal)
Johnson-Davis, Inc.

Title Robert A. Wagler, V.P.

Witness

Ryan Skibba

Surety (Seal)
Liberty Mutual Insurance Company

Title Maria Signorile, Attorney-in-Fact

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7350791

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, James F. Dunn; Maria Signorile; Wesley P. Williams

all of the city of Atlanta, state of GA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 29th day of April, 2016.

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 29th day of April, 2016, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this _____ day of _____, 20_____.

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

currency rate, interest rate or residual value guarantees.

LMS_12873_122013

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That Johnson-Davis, Inc. as Principal, hereinafter called Contractor, and legal title of Liberty Mutual Insurance Company as Surety, hereinafter called Surety, are held and firmly bound onto Town of Jupiter as Obligee, hereinafter called Owner, in the amount of Four Hundred Thousand dollars and 00/100 ($400,000.00) for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS,

Contractor has by written agreement dated September 20, 2016, entered into a contract with Owner for the Unit Price Contract for Stormwater Utility Infrastructure Repairs (S1628) plans and specifications prepared by Town of Jupiter which contract is by reference made a part hereof, and is hereinafter referred to as the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that, if Contractor shall promptly and faithfully perform said Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the Owner.

Whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations there under, the Surety may promptly remedy the default, or shall promptly:

1. Complete the Contract in accordance with its terms and conditions, or

2. Obtain a bid or bids for completing the Contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or, if the Owner elects, upon determination by the Owner and the Surety jointly of the lowest responsible bidder, arrange for a contract between such bidder and Owner, and make available as Work progresses (even though there should be a default or a succession of defaults under the contract or contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the balance of the contract price; but not exceeding, including other costs and damages for which the Surety may

be liable hereunder, the amount set forth in the first paragraph hereof. The term "balance of the contract price," as used in this paragraph, shall mean the total amount payable by Owner to Contractor under the Contract and any amendments thereto, less the amount properly paid by Owner to Contractor.

Any suit under this bond must be instituted before the expiration of one (1) year from the date on which final payment under the Contract falls due.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the Owner named herein or the heirs, executors, administrators or successors of the Owner.

This bond is issued in compliance with Section 255.05, Florida Statutes (1987), as may be amended, which statute supersedes this bond to the extent of any conflict, and to the extent the Public Construction Bond coverage provided in such statute may be broader than this bond. A claimant, except a laborer, who is not in privity with the Contractor and who has not received payment for his labor, materials, or supplies shall, within 45 days after beginning to furnish labor, materials, or supplies for the prosecution of the Work, furnish the Contractor with a notice that he intends to look to the bond for protection. A claimant who is not in privity with the Contractor and who has not received payment for his labor, materials, or supplies shall, within 90 days after performance of the labor or after complete delivery of the materials or supplies, deliver to the Contractor and to the surety written notice of the performance of the labor or delivery of the materials or supplies and of the nonpayment. No action for the labor, materials, or supplies may be instituted against the Contractor or the surety unless both notices have been given. No action shall be instituted against the Contractor or the surety on the bond after 1 year from the performance of the labor or completion of delivery of the materials or supplies.

Signed and sealed this 20 day of September, 2016.

Witness _____

Principal (Seal)
Johnson-Davis, Inc.

Title Robert A. Hagler, V.P.

Witness _____
Ryan Skibba

Surety (Seal)
Liberty Mutual Insurance Company

Title Maria Signorile, Attorney-in-Fact

THIS POWER OF ATTORNEY IS NOT VALID UNLESS IT IS PRINTED ON RED BACKGROUND.
This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Certificate No. 7350792

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That American Fire & Casualty Company and The Ohio Casualty Insurance Company are corporations duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, James F. Dunn; Maria Signorile; Wesley P. Williams

all of the city of Atlanta, state of GA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 29th day of April, 2016.

American Fire and Casualty Company
The Ohio Casualty Insurance Company
Liberty Mutual Insurance Company
West American Insurance Company

By: David M. Carey
David M. Carey, Assistant Secretary

STATE OF PENNSYLVANIA ss
COUNTY OF MONTGOMERY

On this 29th day of April, 2016, before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of American Fire and Casualty Company, Liberty Mutual Insurance Company, The Ohio Casualty Insurance Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Teresa Pastella, Notary Public
Plymouth Twp., Montgomery County
My Commission Expires March 28, 2017
Member, Pennsylvania Association of Notaries

By: Teresa Pastella
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS – Section 12. Power of Attorney. Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts – SECTION 5. Surety Bonds and Undertakings. Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Gregory W. Davenport, the undersigned, Assistant Secretary, of American Fire and Casualty Company, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this _____ day of _____, 20_____.

By: Gregory W. Davenport
Gregory W. Davenport, Assistant Secretary

currency rate, interest rate or residual value guarantees.

To confirm the validity of this Power of Attorney call 1-610-832-8240 between 9:00 am and 4:30 pm EST on any business day.

LMS_12873_122013

OPINION OF TOWN ATTORNEY

This is to certify that I have examined the attached Contract Documents, that after such examination, I am of the opinion that such documents conform to the laws of the State of Florida, that the execution of the Contract and the Contract Bonds is in due and proper form, that the representative of the respective Contracting Parties have full power and authority to execute such Contract and Contract Bond on behalf of the respective Contracting Parties and that the foregoing agreements constitute valid and binding obligations on such parties.

Thomas J. Baird, Esquire
Attorney for Town of Jupiter

This the 8th day of Sept., 2016.

NOTICE TO PROCEED

TO: Johnson-Davis, Inc.
604 Hillbrath Drive
Lantana, FL 33462

ATT: Scott J. Johnson, President

PROJECT: Unit Price Contract for
Stormwater Utility Infrastructure Repairs (S1628)
Town of Jupiter Utilities
Jupiter, Florida

Gentlemen:

One fully executed copy of your contract is enclosed. The commencement date for the initial two year (730 calendar days) term of this Contract is September 20, 2016. The expiration date is September 20, 2018 The OWNER reserves the right to extend the Contract for additional terms as described in the Contract Documents.

Under this Contract, the Town will issue work orders to the Contractor for each project/repair/scope of work to be performed under this Contract on an as needed basis. The work orders will be agreed to between the Owner and the Contractor in writing with a detailed listing of the appropriate pay items identified in the Bid/Contract Schedule of Values as well as materials necessary to complete the work and a schedule for the work before a purchase order is issued. A preconstruction meeting will be scheduled on or before the date of Notice to Proceed.

Your attention is invited to the provision whereby you shall start to perform your obligations under the Contract Documents on the Commencement date. Said date shall begin the Contract Time. The Town of Jupiter will monitor the progress of the work and evaluate conformance with the contract.

We look forward to working with you on this project.

Sincerely,

Amanda Barnes
Town of Jupiter
Assistant Director Utilities

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By

ACEC
American Council of Engineering Companies

National Society of Professional Engineers
Professional Engineers in Private Practice

ASCE American Society of Civil Engineers

PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
a practice division of the
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AMERICAN COUNCIL OF ENGINEERING COMPANIES

AMERICAN SOCIETY OF CIVIL ENGINEERS

This document has been approved and endorsed by

The Associated General Contractors of America

Knowledge for Creating and Sustaining the Built Environment

Construction Specifications Institute

EJCDC C-700 Standard General Conditions of the Construction Contract.
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National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314

American Council of Engineering Companies
1015 15th Street, N.W., Washington, DC 20005

American Society of Civil Engineers
1801 Alexander Bell Drive, Reston, VA 20191-4400

These General Conditions have been prepared for use with the Suggested Forms of Agreement Between Owner and Contractor Nos. C-520 or C-525 (2002 Editions). Their provisions are interrelated and a change in one may necessitate a change in the other. Comments concerning their usage are contained in the EJCDC Construction Documents, General and Instructions (No. C-001) (2002 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. C-800) (2002 Edition).

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GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.

2. *Agreement*--The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.

3. *Application for Payment*--The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

4. *Asbestos*--Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

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

6. *Bidder*--The individual or entity who submits a Bid directly to Owner.

7. *Bidding Documents*--The Bidding Requirements and the proposed Contract Documents (including all Addenda).

8. *Bidding Requirements*--The Advertisement or Invitation to Bid, Instructions to Bidders, bid security of acceptable form, if any, and the Bid Form with any supplements.

9. *Change Order*--A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

10. *Claim*--A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.

11. *Contract*--The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

12. *Contract Documents*-- Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor's submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.

13. *Contract Price*--The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).

14. *Contract Times*--The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any, (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer's written recommendation of final payment.

15. *Contractor*--The individual or entity with whom Owner has entered into the Agreement.

16. *Cost of the Work*--See Paragraph 11.01.A for definition.

17. *Drawings*--That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.

18. *Effective Date of the Agreement*--The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

19. *Engineer*--The individual or entity named as such in the Agreement.

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20. *Field Order*--A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

21. *General Requirements*--Sections of Division 1 of the Specifications. The General Requirements pertain to all sections of the Specifications.

22. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with the Work.

23. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

24. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

25. *Liens*--Charges, security interests, or encumbrances upon Project funds, real property, or personal property.

26. *Milestone*--A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

27. *Notice of Award*--The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the conditions precedent listed therein, Owner will sign and deliver the Agreement.

28. *Notice to Proceed*--A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.

29. *Owner*--The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.

30. *PCBs*--Polychlorinated biphenyls.

31. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

32. *Progress Schedule*--A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.

33. *Project*--The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.

34. *Project Manual*--The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.

35. *Radioactive Material*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

36. *Related Entity* -- An officer, director, partner, employee, agent, consultant, or subcontractor.

37. *Resident Project Representative*--The authorized representative of Engineer who may be assigned to the Site or any part thereof.

38. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

39. *Schedule of Submittals*--A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.

40. *Schedule of Values*--A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

41. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

42. *Site*--Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.

43. *Specifications*--That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain

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administrative requirements and procedural matters applicable thereto.

44. *Subcontractor*--An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.

45. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

46. *Successful Bidder*--The Bidder submitting a responsive Bid to whom Owner makes an award.

47. *Supplementary Conditions*--That part of the Contract Documents which amends or supplements these General Conditions.

48. *Supplier*--A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or any Subcontractor.

49. *Underground Facilities*--All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.

50. *Unit Price Work*--Work to be paid for on the basis of unit prices.

51. *Work*--The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.

52. *Work Change Directive*--A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

1.02 *Terminology*

A. The following words or terms are not defined but, when used in the Bidding Requirements or Contract Documents, have the following meaning.

B. *Intent of Certain Terms or Adjectives*

1. The Contract Documents include the terms "as allowed," "as approved," "as ordered", "as directed" or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives "reasonable," "suitable," "acceptable," "proper," "satisfactory," or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action or determination will be solely to evaluate, in general, the Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day*

1. The word "day" means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective*

1. The word "defective," when modifying the word "Work," refers to Work that is unsatisfactory, faulty, or deficient in that it:

a. does not conform to the Contract Documents, or

b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents, or

c. has been damaged prior to Engineer's recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

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E. *Furnish, Install, Perform, Provide*

1. The word "furnish," when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.

2. The word "install," when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

3. The words "perform" or "provide," when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.

4. When "furnish," "install," "perform," or "provide" is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, "provide" is implied.

F. Unless stated otherwise in the Contract Documents, words or phrases which have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 - PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.

B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

A. Owner shall furnish to Contractor up to ten printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

A. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

1. a preliminary Progress Schedule; indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2. a preliminary Schedule of Submittals; and

3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference*

A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.

2.07 *Initial Acceptance of Schedules*

A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.

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1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work nor interfere with or relieve Contractor from Contractor's full responsibility therefor.

2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.

3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

A. The Contract Documents are complementary; what is required by one is as binding as if required by all.

B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not specifically called for at no additional cost to Owner.

C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

A. Standards, Specifications, Codes, Laws, and Regulations

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

2. No provision of any such standard, specification, manual or code, or any instruction of a Supplier shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, or Engineer, or any of, their Related Entities, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. Reporting Discrepancies

1. *Contractor's Review of Contract Documents Before Starting Work*: Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor may discover and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.

2. *Contractor's Review of Contract Documents During Performance of Work*: If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any Law or Regulation applicable to the performance of the Work or of any standard, specification, manual or code, or of any instruction of any Supplier, Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor knew or reasonably should have known thereof.

B. Resolving Discrepancies

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:

a. the provisions of any standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

b. the provisions of any Laws or Regulations applicable to the performance of the Work

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(unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.

B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:

1. A Field Order;

2. Engineer's approval of a Shop Drawing or Sample; (Subject to the provisions of Paragraph 6.17.D.3); or

3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

A. Contractor and any Subcontractor or Supplier or other individual or entity performing or furnishing all of the Work under a direct or indirect contract with Contractor, shall not:

1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's consultants, including electronic media editions; or

2. reuse any of such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaption by Engineer.

B. The prohibition of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

A. Copies of data furnished by Owner or Engineer to Contractor or Contractor to Owner or Engineer that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party..

C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.

C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

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4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Contract Documents; and

2. those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition at or contiguous to the Site that is uncovered or revealed either:

1. is of such a nature as to establish that any "technical data" on which Contractor is entitled to rely as provided in Paragraph 4.02 is materially inaccurate; or

2. is of such a nature as to require a change in the Contract Documents; or

3. differs materially from that shown or indicated in the Contract Documents; or

4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review*: After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. Possible Price and Times Adjustments

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and

b. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:

a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or

b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or

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c. Contractor failed to give the written notice as required by Paragraph 4.03.A.

3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, Owner and Engineer, and any of their Related Entities shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and

2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:

a. reviewing and checking all such information and data,

b. locating all Underground Facilities shown or indicated in the Contract Documents,

c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction, and

d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

B. *Not Shown or Indicated*

1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

A. *Reports and Drawings:* Reference is made to the Supplementary Conditions for the identification of those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that have been utilized by the Engineer in the preparation of the Contract Documents.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their Related Entities with respect to:

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1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or

3. any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions or information.

C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.

D. If Contractor encounters a Hazardous Environmental Condition or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any.

E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered to Contractor written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.

F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 7.

G. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition: (i) was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be included within the scope of the Work, and (ii) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06. G shall obligate Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 - BONDS AND INSURANCE

5.01 *Performance, Payment, and Other Bonds*

A. Contractor shall furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified

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in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.

B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent must be accompanied by a certified copy of the agent's authority to act.

C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

A. Contractor shall deliver to Owner, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

B. Owner shall deliver to Contractor, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.

5.04 *Contractor's Liability Insurance*

A. Contractor shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;

3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;

4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:

   a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or

   b. by any other person for any other reason;

5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

B. The policies of insurance required by this Paragraph 5.04 shall:

1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, include as additional insured (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary coverage for all claims covered thereby;

2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

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3. include completed operations insurance;

4. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;

5. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);

6. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and

7. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment.

a. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

A. Unless otherwise provided in the Supplementary Conditions, Owner shall purchase and maintain property insurance upon the Work at the Site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

1. include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, (other than caused by flood) and such other perils or causes of loss as may be specifically required by the Supplementary Conditions;

3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

4. cover materials and equipment stored at the Site or at another location that was agreed to in writing by Owner prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by Engineer;

5. allow for partial utilization of the Work by Owner;

6. include testing and startup; and

7. be maintained in effect until final payment is made unless otherwise agreed to in writing by Owner, Contractor, and Engineer with 30 days written notice to each other additional insured to whom a certificate of insurance has been issued.

B. Owner shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of Owner, Contractor, Subcontractors, and Engineer, and any other individuals or entities identified in the Supplementary Conditions, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

C. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained in accordance with Paragraph 5.06 will contain a provision or endorsement that the coverage afforded will not be canceled or materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with Paragraph 5.07.

D. Owner shall not be responsible for purchasing and maintaining any property insurance specified in this Paragraph 5.06 to protect the interests of Contractor, Subcontractors, or others in the Work to the extent of any

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deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount will be borne by Contractor, Subcontractors, or others suffering any such loss, and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

E. If Contractor requests in writing that other special insurance be included in the property insurance policies provided under Paragraph 5.06, Owner shall, if possible, include such insurance, and the cost thereof will be charged to Contractor by appropriate Change Order. Prior to commencement of the Work at the Site, Owner shall in writing advise Contractor whether or not such other insurance has been procured by Owner.

5.07 *Waiver of Rights*

A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insured or additional insured (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.

B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them for:

1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and

2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.

C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

A. Any insured loss under the policies of insurance required by Paragraph 5.06 will be adjusted with Owner and made payable to Owner as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of Paragraph 5.08.B. Owner shall deposit in a separate account any money so received and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Change Order .

B. Owner as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within 15 days after the occurrence of loss to Owner's exercise of this power. If such objection be made, Owner as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, Owner as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, Owner as fiduciary shall give bond for the proper performance of such duties.

5.09 *Acceptance of Bonds and Insurance; Option to Replace*

A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract

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Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

A. If Owner finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work as provided in Paragraph 14.05, no such use or occupancy shall commence before the insurers providing the property insurance pursuant to Paragraph 5.06 have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be canceled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.

B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances. The superintendent will be Contractor's representative at the Site and shall have authority to act on behalf of Contractor. All communications given to or received from the superintendent shall be binding on Contractor.

6.02 *Labor; Working Hours*

A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.

B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

6.03 *Services, Materials, and Equipment*

A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.

B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.

C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.

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1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.

2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.

1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

a. in the exercise of reasonable judgment Engineer determines that:

1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole,

3) it has a proven record of performance and availability of responsive service; and

b. Contractor certifies that, if approved and incorporated into the Work:

1) there will be no increase in cost to the Owner or increase in Contract Times, and

2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. Substitute Items

a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.

b. Contractor shall submit sufficient information as provided below to allow Engineer to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.

c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented in the General Requirements and as Engineer may decide is appropriate under the circumstances.

d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:

1) shall certify that the proposed substitute item will:

a) perform adequately the functions and achieve the results called for by the general design,

b) be similar in substance to that specified, and

c) be suited to the same use as that specified;

2) will state:

a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time;

b) whether or not use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and

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c) whether or not incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;

3) will identify:

a) all variations of the proposed substitute item from that specified , and

b) available engineering, sales, maintenance, repair, and replacement services;

4) and shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change,

B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.

C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by either a Change Order for a substitute or an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.

D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.

E. *Engineer's Cost Reimbursement*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B Whether or not Engineer approves a substitute item so proposed or submitted by Contractor, Contractor shall reimburse Owner for the charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

F. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

6.06 *Concerning Subcontractors, Suppliers, and Others*

A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.

B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued . No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.

C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:

1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity, nor

2. shall anything in the Contract Documents create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual

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or entity except as may otherwise be required by Laws and Regulations.

D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.

E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.

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

G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, and Engineer,, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds (and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of Owner or Engineer its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.

B. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.

B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

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6.10 *Taxes*

A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. Limitation on Use of Site and Other Areas

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.

2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.

3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

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

6.12 *Record Documents*

A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

1. all persons on the Site or who may be affected by the Work;

2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and

3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.

B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

C. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Draw-

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ings or Specifications or to the acts or omissions of Owner or Engineer or , or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).

D. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the acceptable Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. Shop Drawings

a. Submit number of copies specified in the General Requirements.

b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:* Contractor shall also submit Samples to Engineer for review and approval in accordance with the acceptable schedule of Shop Drawings and Sample submittals.

a. Submit number of Samples specified in the Specifications.

b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals , any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. Submittal Procedures

1. Before submitting each Shop Drawing or Sample, Contractor shall have determined and verified:

a. all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

b. the suitability of all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work;

c. all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto; and

d. shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents

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with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations, that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawing's or Sample Submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its Related Entities shall be entitled to rely on representation of Contractor's warranty and guarantee.

B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:

1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or

2. normal wear and tear under normal usage.

C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

1. observations by Engineer;

2. recommendation by Engineer or payment by Owner of any progress or final payment;

3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;

4. use or occupancy of the Work or any part thereof by Owner;

5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;

6. any inspection, test, or approval by others; or

7. any correction of defective Work by Owner.

6.20 *Indemnification*

A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or

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arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .

B. In any and all claims against Owner or Engineer or any of their respective consultants, agents, officers, directors, partners, or employees by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, partners, employees, agents, consultants and subcontractors arising out of:

1. the preparation or approval of, or the failure to prepare or approve, maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or

2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

6.21 *Delegation of Professional Design Services*

A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.

B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.

C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.

D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.

E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 - OTHER WORK AT THE SITE

7.01 *Related Work at Site*

A. Owner may perform other work related to the Project at the Site with Owner's employees, or via other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:

1. written notice thereof will be given to Contractor prior to starting any such other work; and

2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.

B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and

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properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:

1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;

2. the specific matters to be covered by such authority and responsibility will be itemized; and

3. the extent of such authority and responsibilities will be provided.

B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.

B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's actions or inactions.

C. Contractor shall be liable to Owner and any other contractor for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's action or inactions.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

8.02 *Replacement of Engineer*

A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

A. Owner's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site that have been utilized by Engineer in preparing the Contract Documents.

8.06 *Insurance*

A. Owner's responsibilities, if any, in respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

A. Owner's responsibility in respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

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8.09 *Limitations on Owner's Responsibilities*

A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 4.06.

8.11 *Evidence of Financial Arrangements*

A. If and to the extent Owner has agreed to furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents, Owner's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents and will not be changed without written consent of Owner and Engineer.

9.02 *Visits to Site*

A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.

B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment , a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

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9.06 *Shop Drawings, Change Orders and Payments*

A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.

B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.

C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, subject to the provisions of Paragraph 10.05.

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question

B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believe that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.

C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.

D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to, the Resident Project Representative, if any, and assistants, if any.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall

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promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

A.Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.B.

10.03 *Execution of Change Orders*

A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:

1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;

2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and

3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

A. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any bond to be given to a surety, the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

10.05 *Claims*

A. *Engineer's Decision Required*: All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.

B. *Notice:* Written notice stating the general nature of each Claim, shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Time shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).

C. *Engineer's Action*: Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:

1. deny the Claim in whole or in part,

2. approve the Claim, or

3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.

D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.

E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.

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F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 - COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.01.B.

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time at the Site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.

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

3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.

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

5. Supplemental costs including the following:

a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.

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

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

d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, imposed by Laws and Regulations.

e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have

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resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.

g. The cost of utilities, fuel, and sanitary facilities at the Site.

h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, expresses, and similar petty cash items in connection with the Work.

i. The costs of premiums for all bonds and insurance Contractor is required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.

2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.

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

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

5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A and 11.01.B.

C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.

D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 *Allowances*

A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.

B. *Cash Allowances*

1. Contractor agrees that:

a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and

b. Contractor's costs for unloading and handling on the Site, labor, installation , overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.

C. Contingency Allowance

1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.

D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 *Unit Price Work*

A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

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B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.

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

D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:

1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

2. there is no corresponding adjustment with respect any other item of Work; and

3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:

1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or

2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or

3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).

C. *Contractor's Fee:* The Contractor's fee for overhead and profit shall be determined as follows:

1. a mutually acceptable fixed fee; or

2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;

b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;

c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraph 12.01.C.2.a is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;

e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and

f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted

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by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.

B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.

B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times , or both. Contractor's entitlement to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

C If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.

D. Owner, Engineer and the Related Entities of each of them shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of Engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. All defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspecting, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in said Paragraph 13.04.C; and

3. as otherwise specifically provided in the Contract Documents.

C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to

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be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.

E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, it must, if requested by Engineer, be uncovered for observation.

F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.

B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.

C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.

D. If, the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

13.05 *Owner May Stop the Work*

A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

A. Promptly after receipt of notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).

B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:

1. repair such defective land or areas; or

2. correct such defective Work; or

3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and

4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.

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B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications .

D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct or remedy any such deficiency.

B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.

D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress

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payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. Applications for Payments

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.

3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

B. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.

2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations on the Site of the executed Work as an experienced and qualified design professional and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:

a. the Work has progressed to the point indicated;

b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and to any other qualifications stated in the recommendation); and

c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.

3. By recommending any such payment Engineer will not thereby be deemed to have represented that:

a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or

b. that there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:

a. to supervise, direct, or control the Work, or

b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or

c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or

d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.

5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent

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inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:

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

b. the Contract Price has been reduced by Change Orders;

c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or

d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:

a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;

b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;

c. there are other items entitling Owner to a set-off against the amount recommended; or

d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.

2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor corrects to Owner's satisfaction the reasons for such action.

3. If it is subsequently determined that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1.

14.03 *Contractor's Warranty of Title*

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

14.04 *Substantial Completion*

A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.

B. Promptly after Contractor's notification, , Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.

C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will within 14 days after submission of the tentative certificate to Owner notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will within said 14 days execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.

D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial

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Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.

E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to complete or correct items on the tentative list.

14.05 *Partial Utilization*

A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions.

1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor will certify to Owner and Engineer that such part of the Work is substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.

3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 5.10 regarding property insurance.

14.06 *Final Inspection*

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

14.07 *Final Payment*

A. Application for Payment

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.

2. The final Application for Payment shall be accompanied (except as previously delivered) by:

a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.7;

b. consent of the surety, if any, to final payment;

c. a list of all Claims against Owner that Contractor believes are unsettled; and

d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.

3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner or Owner's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations

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under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. Payment Becomes Due

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and , will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

A. The making and acceptance of final payment will constitute:

1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and

2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

A. The occurrence of any one or more of the following events will justify termination for cause:

1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);

2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;

3. Contractor's disregard of the authority of Engineer; or

4. Contractor's violation in any substantial way of any provisions of the Contract Documents.

B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:

1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the full extent they could be used by Contractor (without liability to Contractor for trespass or conversion),

2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and

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3. complete the Work as Owner may deem expedient.

C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph Owner shall not be required to obtain the lowest price for the Work performed.

D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt of said notice.

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

F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B, and 15.02.C.

15.03 *Owner May Terminate For Convenience*

A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):

1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

3. all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and

4. reasonable expenses directly attributable to termination.

B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.

B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 - DISPUTE RESOLUTION

16.01 *Methods and Procedures*

A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be

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governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.

B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.

C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:

1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions, or

2. agrees with the other party to submit the Claim to another dispute resolution process, or

3. gives written notice to the other party of their intent to submit the Claim to a court of competent jurisdiction.

ARTICLE 17 - MISCELLANEOUS

17.01 *Giving Notice*

A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:

1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or

2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

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

17.03 *Cumulative Remedies*

A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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SUPPLEMENTARY CONDITIONS

These Supplementary Conditions are provided to amplify, clarify, revise or amend the terms and conditions of the Instructions to Bidders, Proposal, Agreement, General Conditions, Specifications, and Drawings for this particular project. Please refer to the specific page, paragraph, section and/or article noted. Bidders are encouraged to read the following conditions carefully. Failure to comply with these conditions may cause bid to be declared non-responsive.

A. GENERAL CONDITIONS:

The following Supplementary Conditions amend or supplement the Standard General Conditions of the Construction Contract (EJCDC C-700, 2002 Edition) and other provisions of the Contract Documents as indicated below. All provisions which are not so amended or supplemented remain in full force and effect.

ARTICLE 1 - DEFINITIONS - Page 6

SC-1.

The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract (EJCDC C-700, 2002 Edition) have the meanings assigned to them in the General Conditions.

ARTICLE 1 - DEFINITIONS - Page 7

Add the following definition: 21A. Hardscape—Hardscape is any permanent asphalt, concrete or brick paver surface that is exposed at final grade within the Right-Of-Way which includes but is not limited to driveway aprons, sidewalks, pathways, curbs, concrete slabs, roadway surface, drainage flumes, retaining wall, barrier wall, head wall and any other surfaces constructed with these material.

ARTICLE 2 - PRELIMINARY MATTERS (2.07)

Replace Engineer with Owner.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE (3.01c, 3.03 a&b, 3.04b)

Replace Engineer with Owner in paragraphs 3.01C, 3.03 A&B and 3.04B

ARTICLE 5 - BONDS AND INSURANCE - Page 14

Delete the first sentence of SC-5.01A of the General Conditions and Replace it with the following sentence:

Contractor shall furnish performance and payment bonds, each in an amount of $500,000.00 as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. If the value of work outstanding at any time is anticipated to exceed $500,000.00. Contractor shall increase his/her performance

SC-6.20 D

A monetary limitation on the extent of this indemnification is hereby imposed. The amount of this indemnification shall extend up to but shall not exceed the amounts or limits of the insurance coverage required by CONTRACTOR by the project specifications or bid documents, except that in the event the CONTRACTOR purchase insurance covering the liability with limits in excess of the said required limits, the CONTRACTOR'S indemnity obligation shall extend up to but shall not exceed the limits of that insurance.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION (9.01 - 9.09)

SC-9.01 A Owner's Representative

The OWNER will administer the Contract during the construction phase. The Owner's Engineering Consultant will have a limited role during construction as determined by the Owner. The paragraphs in all articles of the General Conditions may or may not apply to the Engineers role during construction.

ARTICLE 10 - CHANGES IN THE WORK; CLAIMS

10.03 & 10.05

Replace Engineer with Owner

ARTICLE 12 - CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.02

Replace Engineer with Owner

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.03 - Test and Inspections, Paragraph A
Add the words "Owner or" before Engineer in the first sentence.

13.04 - Uncovering Work
Add the words "Owner or" before Engineer

13.06 - Correction or Removal of Defective Work
Add the words "Owner or" before Engineer.

13.07 Correction Period, Paragraph A
Delete "Substantial Completion" and Replace with "final payment of each Work Order"

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

Delete "Engineer" and replace with "Owner" in the following locations:

14.01
14.02.A
14.02.B.1

14.02.B.4
14.02.B.5

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.02.B.2)

Replace the existing Paragraph 14.02.B.2 with the following Paragraph SC-14.02.B.2.

SC-14.02.B.2
2. Owner's recommendation of any payment requested in an Application for Payment will constitute a representation by Owner that to the best of the Owner's knowledge, information and belief:

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.02.B.3)

Add the words "Owner or" before "Engineer".

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.02.C.1)

Delete "Ten" and replace with "Thirty".

Delete "with Engineer's recommendation".

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.02.D.1)

Delete "recommended by Engineer".

Add the following Paragraph 14.02.D.1.e after Paragraph 14.02.D.1.d.

SC-14.02.D.1.e
e. there are pending liquidated damages.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.02.D.2)

Delete "recommended by Engineer".

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.04.A)

Delete "and Engineer".

Delete "Engineer" and replace with "Owner".

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.04.B)

Delete "Engineer" and replace with "Owner".

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.04.C)

Add the words "Owner or" before "Engineer".

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.04.D)

Delete "Engineer" and replace with "Owner".

Delete "Owner and" in 1st occurrence of 1st sentence.

Delete "aforesaid" in last sentence.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.06.A)

Delete "Engineer" and replace with "Owner".

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.07.A.1)

Add the words "Owner or" before "Engineer".

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.07.B)

Replace the existing Paragraph 14.07.B with the following Paragraph SC-14.07.B.

SC-14.07.B

B. *Owner or Engineer's Review of Application and Acceptance*

1. If, on the basis of Owner or Engineer's observation of the Work during construction and final inspection, and Owner's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Owner or Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Owner will give written notice to Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Owner will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.07.C.1)

Delete "Engineer" and replace with "Owner".

Delete "against Engineer's recommendation".

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION (14.08)

Delete "Engineer" and replace with "Owner".

Delete "and if Engineer so confirms".

Delete "and recommendation of Engineer".

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION (15.01.A)

Delete "and Engineer".

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION (15.04.A)

Delete 1st occurrence of "Engineer" and replace with "Owner".

Delete "and Engineer".

Delete "or Engineer".

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION (15.04.B)

Delete "Engineer" and replace with "Owner".

Delete "and Engineer".

SECTION 01010

SUMMARY OF WORK

PART 1 -- GENERAL

1.01 GENERAL

A. The purpose and intent of this Contract is to establish an hourly priced contract for the provision of crews with equipment to be used by Town of Jupiter Utilities Department to perform miscellaneous utility infrastructure maintenance, repairs, and or improvements through the issuance of specific Work Orders. Crews and equipment shall be available on an "as needed" basis with no guarantee by the Town of the amount of usage.

B. For all non-emergency work orders the Contractor will be required to submit a materials list with quantities, including restoration, with pricing from at least two different vendors for the Town's consideration. The Town may direct purchase the materials under the Sales Tax and Use Program (described in the Supplemental Conditions) or ask the Contractor to purchase materials allowing a fifteen percent (15%) mark up on material pricing. Contractor shall also provide pricing for any subcontracted work as required to complete the Work. The allowable mark up on sub-contractor pricing will be five percent (5%). If Town is to direct purchase materials under the Sales Tax and Use Program, Contractor shall provide the Town with the materials list and quantities, coordinate with vendor for ordering, and delivery of materials, and haul the materials as needed to the job site.

C. For emergency work orders the Contractor will be required to submit an estimated material list with quantities and pricing, to the extent practical, including restoration to the Town's for approval. The Contractor will be responsible for the purchase of the materials, material delivery, schedule and all coordination with the vendor in emergency repair situations. Allowable Contractor mark up on materials is fifteen percent (15%) and on subcontracted work is five percent (5%).

D. Normal work hours under this Contract are Monday-Friday, 7:00am - 5:00pm. Work requiring inspection by Town representatives shall be scheduled to occur between 8:00am – 4:00pm, Monday-Friday. No work will be permitted on weekends, Town observed holidays, or outside of normal work hours without written approval by Owner. Contractor must request in writing, from Owner, permission to work outside of normal work hours at least one week in advance.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

A. Furnish all labor, equipment, and materials (if applicable) to perform miscellaneous utility infrastructure maintenance, repairs, and/or improvements at the direction of the Town.

B. Prior to construction, the Contractor shall identify existing utilities. The Contractor will be responsible for the coordination of his work with the associated utility owners and permitting agencies having jurisdiction over the specific locations to be verified.

C. The Work may include providing temporary storm water facilities, bypass pumping or plugging, dewatering, and other appurtenant and miscellaneous items and work for a completed project. Owner will review each project with Contractor before asking Contractor to provide a proposal for work order. Sound attenuation shall be provided by Contractor for dewatering and by-pass pumps as needed to comply with the Town of Jupiter Noise Ordinance.

D. Work shall be performed to ensure a minimum of traffic disruption or storm sewer down time as necessary, and work must be coordinated with affected residents and utility personnel.

E. Acceptable Maintenance of Traffic (MOT) is the responsibility of the Contractor. Contractor shall submit MOT plans for approval to the Owner and appropriate regulatory agencies before work begins with the cost of MOT included in the proposal for Work Order.

F. Contractor's Duties:

1. Contractor shall be a Florida licensed underground contractor. Equipment operators must be fully licensed, as applicable, and competent in the use of the assigned equipment. Failure to comply with any of these requirements is sufficient cause to terminate contract because of default by the Contractor.

2. The Contractor will be responsible for repairs and maintenance of its equipment. The equipment will be operated by the Contractor and kept in good working condition, including all grease, oil, parts and fuel as necessary.

3. Contractor's equipment deemed defective by the Town of Jupiter representative shall be promptly removed from the site. Personnel employed either directly or indirectly by the Contractor, who are deemed to be incompetent, inept or unfit to perform the work in the opinion of the Town of Jupiter Project representative, shall be promptly removed from the project under this Contract, and such personnel shall not again be employed to work on the project. Failure of the Successful Bidder to remove defective equipment or incompetent personnel may result in the termination of this Contract.

4. Subcontractors (when used) shall work directly for the Contractor and Contractor shall have a representative on site when sub-contractor is working.

5. Contractor is responsible to schedule and coordinate field materials testing services (ie density testing, concrete cylinders, etc.) with the Town's contracted geotechnical testing lab assigned to this contract. Contractor shall keep Town's Field Representative informed of scheduled testing services and Town's Field Representative must be present while field testing services are being performed.

Town will pay for field testing services unless Town was not informed of scheduled testing and therefore not present or test results are unacceptable.

6. Review and incorporate Owner-reviewed shop drawings, product data, and samples into the construction of the project.

7. Demolish, haul and dispose of in a legal manner all materials scheduled for demolition.

8. Receive and unload products at site; inspect for completeness or damage jointly with Owner.

9. Repair or replace items damaged after receipt.

10. Arrange for product delivery to site.

11. Handle, store, protect and install all delivered products.

12. Submit claims for transportation damage and replace damaged, defective, or deficient items.

13. Arrange for manufacturers' warranties, inspections, and service.

14. Provide the Owner with a one-year warranty on all equipment and workmanship from the date of substantial completion of each work order.

G. No guarantee is expressed or implied as to the total range and/or quantity of bid items to be issued in Work Orders under this contract. Estimated quantities on the Bid Schedule of Values are for Bid comparison purposes only. The Owner reserves the right to issue Work Orders as and when required for proposed work for any, all, or any combination of bid items thereof. Owner does not guarantee any value of work to be performed under this Contract.

H. Specific work orders for stormwater facilities and collection system rehabilitation, repair, improvement, construction will be developed between the Contractor and Owner based on Contract Unit pricing, material pricing, and technology and remedial construction services as needed to complete the Work contemplated. Owner reserves the right to select the technology for the scope of work contemplated.

I. Materials supplied and construction performed under this Contract shall comply with the latest version of Town of Jupiter Water and Stormwater Guide for Development, Design and Construction Standards and Engineering and Public Work Construction Standards, available on the Town of Jupiter website, www.jupiter.fl.us. Work performed in FDOT or Palm Beach County right of ways must comply with those agencies standards.

1.03 WORK BY OTHERS

A. The Contractor's attention is directed to the fact that work may be conducted at the sites by other contractors during the performance of the Work under this Contract. The Contractor shall conduct its operations so as to cause a minimum of interference with the Work of such other contractors, and shall cooperate fully with such contractors to provide continued safe access to their respective portions of the sites, as required to perform their respective contracts.

B. The Contractor shall cooperate fully with all utility forces of the Owner or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the Work, and shall schedule the Work so as to minimize interference with said relocation, altering, or other rearranging of facilities.

1.04 FIELD LAYOUT OF WORK

A. All work under this Contract shall be constructed in accordance with the information stipulated by the Contract and provided by the Owner, on drawings, sketches, photographs, and in other written documentation for each Work Order or as modified by the Owner. Elevations of existing ground, structures and appurtenances are believed to be reasonably correct but are not guaranteed to be absolute and therefore are presented only as an approximation. Any error or apparent discrepancy in the data shown or omissions of data required for accurately accomplishing the stake-out survey shall be referred immediately to the Owner for interpretation or correction.

B. All survey work and materials for construction control purposes and record drawings shall be made by the Contractor at his expense and shall be included in the proposal for work order. The Contractor shall establish all base lines for the location of the principal component parts of the work together with bench marks and batter boards adjacent to the work. Based upon the information provided by the sketches and/or drawings, the Contractor shall develop and make all detail surveys necessary for construction. If necessary the Owner will assist with furnishing information and locations for existing bench marks.

C. The Contractor shall have the responsibility to carefully preserve the bench marks, reference points and stakes. In case of destruction thereof by the Contractor or resulting from his negligence, he shall be held liable for any expense and damage resulting therefrom and shall be responsible for any mistakes that may be caused by the unnecessary loss or disturbance of such bench marks, reference points and stakes.

D. Existing or new control points, property markers, and monuments that will be established or are destroyed during the normal causes of construction shall be re-established by the Contractor; and all reference ties recorded therefore shall be furnished to the Owner. All computations necessary to establish the exact position of the work shall be made and preserved by the Contractor. Contractor shall review field layout and staking with Owner prior to proceeding with work.

E Specific Staking Requirements: When performing construction as part of this contract, the Contractor shall set stakes to establish lines and grades for subgrade, base, curb, and related items at intervals along the line of the work no greater than 50 feet on tangents and 25 feet on curves, or as needed for Town's Field Representative to evaluate the proposed improvements.

F. Personnel, Equipment, and Record Requirements: The Contractor shall employ only competent personnel and use only suitable equipment in performing layout work. The Contractor shall not engage the services of any person or persons in the employ of the Owner for performance of layout work. The Contractor shall keep adequate field notes and records while performing layout work. The Contractor shall make these field notes and records available for the Owner's review as the work progresses, and furnish copies to the Owner at the time of completion of the project. The Owner's inspection, checking, or

acceptance of the Contractor's field notes or layout work does not relieve the Contractor of his responsibility to achieve the lines, grades, and dimensions necessary to complete the work properly. Prior to final acceptance of the project, the Contractor shall re-establish in a permanent manner on the surface of the completed work, all existing and new control points, property markers, and monuments.

G. The Owner may check all or any portion of the work including but not limited to sidewalks, curb, subgrade, base, pavement elevations, pipe inverts, basin elevations, and any other areas or items, and the Contractor shall afford all necessary assistance to the Owner in carrying out such checks. Any necessary corrections to the work shall be performed immediately by the Contractor.

1.05 CONTRACTOR USE OF PROJECT SITE

A. The Contractor's use of the project site shall be limited to its construction operations, including on-site storage of materials, on-site fabrication facilities, and field offices. Off-site storage of materials will be arranged for by the Contractor and a copy of an agreement for use of other property shall be furnished to the Owner.

1.07 PARTIAL UTILIZATION OF THE WORK BY OWNER

A. The Contractor is hereby advised that the Owner may accept the responsibility for the maintenance and protection of a specific portion of the project if utilized prior to completion. However, the Contractor shall retain full responsibility for satisfactory operation of the total project.

1.08 SITE CONDITIONS

A. The Contractor acknowledges that conditions affecting the work vary, including but not restricted to those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads and uncertainties of weather, river stages, tides, water tables or similar physical conditions at the site, the conditions of the ground, fill, existing improvements, the character of equipment and facilities needed preliminary to and during prosecution of the Work. The Owner assumes no responsibility for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Owner.

B. Contractor is responsible to familiarize himself with each project site and the associated site conditions before submitting a proposal for work order for Owner's consideration. Any conditions that affect Contractor's ability to perform the work in accordance with Town of Jupiter Utilities and Engineering/Public Works construction standards and details (available on the Town's website www.jupiter.fl.us) shall be included in the proposal for work order.

PART 2 -- PRODUCTS - (Not Used)

PART 3 -- EXECUTION - (Not Used)

- END OF SECTION –

SECTION 01025

MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1. 01 GENERAL

A. SCOPE OF THIS SECTION

1. The following explanation of the Measurement and Payment for the Schedule of Payment items is provided; however, the omission or reference to any item shall not alter the intent of the Bid Form or relieve the Contractor of the necessity of constructing a complete project under this Contract.

2. The quotations prepared by the Contractor for the various items of work are intended to establish a total price for completion of the work in its entirety. Should the contractor feel that the cost for any particular work item has not been established by the Schedule of Payment items or this section, the Contractor shall include the cost for that work in one of the bid items so the proposal for the project reflects the total cost to complete the work in its entirety.

3. The Owner reserves the right to increase or decrease the quantity of any item or portion of the work during the progress of construction in accordance with the terms of the Contract.

4. Unit prices, if used, are used as a means for computing the bid, for Contract purposes, for periodic payments, for determining value of additions or deletions.

5. Payment shall be made for the items listed on the Bid Form on the basis of the work actually performed and completed, such work including but not limited to, the furnishing of all necessary labor, equipment, tools, transportation, delivery, disposal of waste and surplus material, and backfilling as described in the work order, and all other appurtenances to complete the construction and installation of the work as described in the work order.

1.02 SUBMITTALS

A. Project Unit Costs and Payment Information:
   1. Work Order Proposals
   2. Application for Payments
   3. Final Application for Payment

B. Submittals shall be in accordance with Section 01300.

1.03 APPLICATION FOR PAYMENT

A. Include accepted schedule of values for each portion of work and the unit price breakdown for the work to be paid on a unit price basis, and a listing of Owner selected equipment, if applicable, and allowances, as appropriate.

B. Preparation:
   1. List each Change Order and Written Amendment executed prior to date of submission as a separate line item.
   2. Submit application for payment, a listing of materials on hand as applicable, and such supporting data as may be requested by the Owner.
   3. Include Owner's Application for Payment Cover Sheet and partial or full releases of liens, as appropriate, for all subcontractors, suppliers, and Contractor.

PART 2 – PRODUCTS

2.01 GENERAL

A. Contractor shall coordinate with Owner for suitable locations to store Owner purchased materials under this Contract. Contractor shall coordinate with Owner and be responsible to transport Owner furnished materials from the Town's storage facility located at the Town's Emergency Operations Center (EOC) to the job site, if necessary.

B. Costs for Mobilization, Demobilization, Maintenance of Traffic, sediment control/pollution prevention, project record drawings and Contractor General Conditions for individual work orders will be negotiated based on the scope of each work order, and shall not exceed 10% of the sum of the work order line items, excluding this item.

C. For all non-emergency work orders the contractor will be required to submit a material list with prices from two separate vendors to the Town's representative. The Town may direct purchase the materials from the lowest vendor or pay the Contractor a 15% mark-up on the cost of the materials for the Contractor to supply them. In either situation, it will be the Contractor's responsibility to provide material quantities, take receipt of delivery, schedule and all coordination with the vendor.

D. Cost of maintenance of Traffic (MOT) shall be provided within the individual work order proposal with supporting documentation. Allowable markup on sub-contracted MOT is 5%.

2.02 ITEM DESCRIPTIONS

A. **INDEMNIFICATION** (Bid Item No. 1)
In recognition of Contractor's indemnification obligations, the Owner will pay to the Contractor the specific consideration of one hundred dollars ($100.00). Payment of said specific consideration shall be made at the time of the payment of the first Work Order and the Contractor shall acknowledge payment of this consideration by letter to the Owner after receipt of the progress payment.

B. **BONDS AND INSURANCE** (Bid Item No. 2)
The Work included in this Item shall be the actual costs of bonds and any required insurance as outlined in the Contract Documents. Payment of bonds and insurance shall be made on the first Application of Payment of each work order. Contractor shall provide Owner with written documentation from bonding and insurance companies indicating actual costs for bonds and insurance for this project.

C. **4 MAN UNDERGROUND CONSTRUCTION CREW** (Bid Item No. 3)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision of a 4 Man Underground Construction Crew at the direction of the Town to perform miscellaneous utility infrastructure maintenance, repairs, and/or improvements. All work shall be performed in accordance with permitted regulatory agency requirements and meet the appropriate jurisdictional standards which include but are not limited to FDEP, Palm Beach County Health Dept., Town of Jupiter, Palm Beach County, Martin County, and any other permitting entity applicable to the work proposed. This pay item shall include but not be limited to full compensation for furnishing labor consisting of a four (4) man crew which includes foreman/operator, pipe layer and two laborers; minimum equipment consisting of 1 ton pickup truck, pipe saw, plate compactor, 3" trash pump; miscellaneous hand tools and safety equipment necessary to meet regulatory agency requirements. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. This pay item is an hourly rate charge for a 4 Man Underground Construction Crew during normal working hours. The Owner will track time and approve payment.

D. **OVERTIME MULTIPLIER FOR 4 MAN UNDERGROUND CONSTRUCTION CREW** (Bid Item No. 4)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour multiplied by the overtime multiplier for the provision of a 4 Man Underground Construction Crew at the direction of the Town to perform

miscellaneous utility infrastructure maintenance, repairs, and/or improvements. All work shall be performed in accordance with permitted regulatory agency requirements and meet the appropriate jurisdictional standards which include but are not limited to FDEP, Palm Beach County Health Dept., and/or Town of Jupiter, Palm Beach County, Martin County, and any other permitting entity applicable to the proposed work. This pay item shall include but not be limited to full compensation for furnishing labor consisting of a four (4) man crew which includes foreman/operator, pipe layer and two laborers; minimum equipment consisting of 1 ton pickup truck, pipe saw, plate compactor, 3" trash pump; miscellaneous hand tools and safety equipment necessary to meet regulatory agency requirements. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. This pay item is an hourly rate charge for a 4 Man Underground Construction Crew during overtime working hours. The Owner will track time and approve payment.

E. COMBINATION BACKHOE LOADER (Bid Item No. 5)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision of a Combination Backhoe Loader which is a supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for providing a Caterpillar 461E Backhoe Loader (or equivalent size machine) to the work order site for a specified period of time and include all costs associated with delivery, pickup, maintenance, operation (including operator), insurance, and any other miscellaneous costs or fees associated with providing a safe working machine as designed by the manufacturer. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. This pay item is an hourly rate charge for the Combination Backhoe Loader. The Owner will track time and approve payment.

F. HYDRAULIC EXCAVATOR WITH OPERATOR (Bid Item No. 6)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis for the actual time the excavator with Operator is in use for the intended scope of work as agreed to in writing between Contractor and Owner. The Owner will track time and approve payment. Measurement of this item shall not include travel time for the excavator or operator to and from the site.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision and operation of a Hydraulic Excavator which is a

supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for providing a Caterpillar 315D Hydraulic Excavator (or equivalent size machine) to the work order site for a specified period of time and include all costs associated with delivery, pickup, maintenance, operation (including operator), insurance, and any other miscellaneous costs or fees associated with providing a safe working machine as designed by the manufacturer. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment.

G. DUMP TRUCK WITH OPERATOR (Bid Item No. 7)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis for the actual time the dump truck with Operator is in use for the intended scope of work as agreed to in writing between Contractor and Owner. The Owner will track time and approve payment. Measurement of this item shall not include travel time for the dump truck or operator to and from the site.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision and operation of a dump truck which is a supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for providing a 20 yard dump truck to the work order site for a specified period of time and include all costs associated with delivery, pickup, maintenance, operation (including operator), insurance, and any other miscellaneous costs or fees associated with providing a safe working machine as designed by the manufacturer. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment.

H. DEWATERING WITH 4" HYDRAULIC PUMP (Bid Item No. 8)

1. Method of Measurement: The quantity to be paid for under this Section shall be on an hourly basis for the actual time the 4" hydraulic pump is in operation for the intended scope of work as agreed to between Contractor and Owner. The Owner will track time and approve payment. Measurement of this pay item will not include the time required to mobilize, set up and remove the pump and associated equipment to/from the job site.

2. Basis of Payment: Payment shall be made at the Contract unit price per hour for the provision and operation of a 4" Hydraulic Pump which is a supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for labor, equipment, and material such as providing pump and associated equipment, fuel, maintenance, suction and discharge piping, disposal of

pump discharge, dewatering permits and any other costs associated with dewatering using a 4" hydraulic pump to assist in removing groundwater from the excavation area to an acceptable discharge location. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. Contractor shall include costs associated with dewatering with anything smaller than a 4" hydraulic pump in the 4 Man Underground Construction Crew pay item. If a 4" hydraulic pump does not provide adequate dewatering, in the opinion of the Owner, then Contractor shall dewater by well point. Owner will not pay costs associated with this Pay Item if dewatering with 4" hydraulic pump is not adequate, or efficient. Owner will not direct Contractor in what type of dewatering to use. This pay item is an hourly rate charge for the 4" Hydraulic Pump.

I. **DEWATERING WITH WELL POINTS** (Bid Item No. 9)

1. Method of Measurement: The quantity to be paid for under this Section shall be on a daily basis for the actual time the well point dewatering system is in operation for the intended scope of work as agreed to in writing between Contractor and Owner. The Owner will track time and approve payment. Measurement of this item will not include the time to mobilize, set up and remove the well point dewatering system to/from the job site.

2. Basis of Payment: Payment shall be made at the Contract unit price per 24 hour-day (24 hr.) for the provision of a well point system complete with suction/discharge piping and vacuum pump which is a supplement to the 4 Man Underground Construction Crew bid item. This pay item shall include, but not be limited to, full compensation for labor, equipment, and material for a complete well point dewatering system including but not limited to fuel, maintenance, suction and discharge piping, manifold header piping, dewatering permits, permitting pump discharge, disposal of pump discharge and any other costs associated with dewatering using a well point system to assist in removing groundwater from the excavation area to an acceptable discharge location. Any time charged under this line item must be specifically approved in writing by the Owner, including a mutually agreed upon start date and duration in hours. Any time charged by the Contractor without the Owner's prior written approval under this pay item will not be approved for payment. This pay item is an hourly rate charge for Dewatering with Well Points. If Contractor has not provided a well point dewatering system adequate to allow for repairs and/or installation of the infrastructure in accordance with Town or other applicable entity standards, Owner will not pay costs associated with this Pay Item until the Contractor has corrected the system to function properly and efficiently.

J. Asphalt Road Repair (Bid Item No. 10)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of asphalt furnished, placed and accepted.

2. Basis of Payment: The Contract Unit Price shall include full compensation for all labor, materials, and equipment necessary for asphalt repair and shall include, but not be limited to, excavation associated with subgrade preparation, base placement, grading, compaction, asphalt, placement and all other incidentals required to perform the asphalt repair in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the road on which the asphalt repairs are being made and the Contract Documents.

K. Asphalt Driveway Apron (Bid Item No. 11)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of asphalt furnished, placed and accepted to replace/repair existing asphalt driveway aprons as needed to facilitate the Work of this Contract.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary for driveway apron replacement/repair including but not limited to, excavation of existing asphalt, disposal of excavated materials, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), subgrade preparation, base placement, compaction, asphalt, placement, and all other incidentals required to perform the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the road on which the asphalt repairs are being made and the Contract Documents. Payment does not include repair associated with damage caused by Contractor's negligence or carelessness which will be the Contractor's responsibility.

L. Concrete Driveway Apron (Bid Item No. 12)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of concrete furnished, placed and accepted to replace/repair existing concrete driveway aprons as needed to facilitate Work performed under this Contract.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary for concrete driveway apron replacements including, but not limited to excavation and disposal of existing concrete apron, concrete cutting, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), subgrade preparation, compaction, forms, reinforcing, concrete, placement, finishing, curing, protection, and all other incidentals as needed to perform the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the road on which the replacement/repairs are being made and the Contract Documents. Payment does not include repair associated with damage caused by Contractor's negligence or

carelessness which will be the Contractor's responsibility. This pay item also does not include costs associated with stamped or painted concrete. If stamped or painted concrete is needed, Owner will request a price from Contractor.

M. Paver Driveway Repair (Bid Item No. 13)

1. Method of Measurement: The quantity paid for under this item shall be per square foot of paver driveway repair performed and accepted as needed to facilitate Work performed under this Contract.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary for paver driveway repairs including, but not limited to removal of existing pavers, replacement of broken pavers, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), subgrade preparation, compaction, sand, pavers and all other incidentals as needed to perform the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the road on which the Work is done and the Contract Documents. Payment does not include repair associated with damage caused by Contractor's negligence or carelessness which will be the Contractor's responsibility. This pay item also does not include sealing the pavers. If existing pavers are sealed, Owner will request a price from Contractor.

N. Concrete Sidewalk (Bid Item No. 14)

1. Method of Measurement: The quantity paid for under this item shall be per square yard of concrete sidewalk repaired/replaced and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to perform sidewalk repair/replacement including, but not be limited to, demolition of existing concrete sidewalk, concrete cutting, disposal of demolished concrete, preparation of subgrade, forms, reinforcement, grading (to meet ADA requirements as applicable), compaction, concrete, placement, finishing, tactile surface (where applicable) in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction over the area of the Work and the Contract Documents.

O. Valley Curb (Bid item No. 15)

1. Method of Measurement: The quantity paid for under this item shall be per linear foot of concrete valley curb repair/replaced and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to repair/replace concrete valley curb and shall include, but not be limited to, demolition of existing curb, disposal, concrete cutting, forming, reinforcing, grading, compaction, concrete, placement, finishing and all other incidentals necessary to complete the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction of the road on which the curb exists and the Contract Documents.

P. **Type "D" Curb (Bid Item No. 16)**

1. Method of Measurement: The quantity paid for under this item shall be per linear foot of concrete Type D curb repair/replaced and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to repair/replace concrete curb and shall include, but not be limited to, demolition of existing curb, disposal, concrete cutting, forming, reinforcing, grading, compaction, concrete, placement, finishing and all other incidentals necessary to complete the Work in accordance with construction standards of the Town of Jupiter or other regulatory agency having jurisdiction of the road on which the curb exists and the Contract Documents.

Q. **Bahia Sod (Bid Item No. 17)**

1. Method of Measurement: The quantity paid for under this item shall be per square yard of sod placed and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to repair/replace sod and shall include, but not be limited to, scrapping and removal of existing sod, disposal, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), top soil, sod, placement, pinning (as needed on slopes), watering, fertilizer, establishment of healthy sod, and all other incidentals necessary to complete the Work in accordance with the standards of the Town of Jupiter and the Contract Documents and the Contract Documents.

R. **Saint Augustine Sod (Bid Item No. 18)**

1. Method of Measurement: The quantity paid for under this item shall be per square yard of sod placed and accepted.

2. Basis of Payment: The Contract Unit Price shall include all labor, materials, and equipment necessary to repair/replace sod and shall include, but not be limited to, scrapping and removal of existing sod, disposal, grading to accommodate Owner desired drainage patterns (swale cross section/roadway longitudinal slopes), top soil, sod, placement, pinning (as needed on slopes), watering, establishment of healthy sod, and all other incidentals necessary to complete the Work in accordance with the standards of the Town of Jupiter and the Contract Documents and the Contract Documents.

END OF SECTION

SECTION 01030

HURRICANE PREPAREDNESS

PART 1 -- GENERAL

1.01 HURRICANE PREPAREDNESS PLAN

A. The Contractor's attention is drawn to the possibility of hurricane or severe storm conditions occurring at the site of work during the course of Contract Work.

B. Within fourteen (14) days of the date of the Notice to Proceed, the Contractor shall submit to the Engineer and Owner a Hurricane Preparedness Plan. The plan should outline the necessary measures which the Contractor proposes to perform at no additional cost to the Owner in case of a hurricane or severe weather warning.

C. In the event of inclement weather, or whenever the Owner shall direct, the Contractor shall, and will, cause Subcontractors to protect carefully the Work and all materials and equipment from experiencing damage or causing injury by extreme weather. Work and materials damaged shall be removed and replaced at the expense of the Contractor.

1. Hurricane Watch: Upon designation of a hurricane watch, the Contractor shall be responsible for removing all loose supplies and equipment from the job site that may pose a danger. Contractor may provide the Owner with alternatives to removing the equipment and materials from the site, provided that the methods are reasonable considering the impending threat of storm. The Owner does not need to approve the alternative method should he feel it is not in the best interest of the Town. In addition, the Contractor shall remove all bulkheads and plugs in pipelines that would impede drainage in the case of flooding. Structures that may be in danger of floatation shall be flooded. The Contractor shall also cooperate with the Owner in protecting any other structures at the site from receiving poor quality runoff resulting from activities.

2. Hurricane Warning: No mobile "temporary facility" shall be staffed during a hurricane warning. Contractor facilities meeting these criteria shall be evacuated. Reasonable steps shall be taken to protect all such facilities and their contents from damage and to avoid the facility from causing damage to the surroundings.

D. The Contractor may be required to backfill excavations depending on the severity of the approaching storm or the expected amount of rainfall. Additionally, erosion protection and inlet protection will be required depending on the site conditions at the time of the Hurricane Watch.

E. Contractor shall be responsible to securely tie down large items and remove small lighter items from the job site upon notification to do so by the Owner. Equipment with booms or high rise pieces shall be lowered and secured.

- END OF SECTION -

SECTION 01090

REFERENCE STANDARDS

PART 1 -- GENERAL

1.01 GENERAL

A. Titles of Sections and Paragraphs: Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.

B. Applicable Publications: Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date of the opening of bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Without limiting the generality of other requirements of the specifications, all work specified herein shall conform to or exceed the requirements of all applicable codes and the applicable requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of these Specifications nor the applicable codes.

B. References herein to "Building Code" shall mean the Florida Building Code. The latest edition of the code as approved and used by the local agency as of the date of award, as adopted by the agency having jurisdiction, shall apply to the Work herein, including all addenda, modifications, amendments, or other lawful changes thereto.

C. In case of conflict between codes, reference standards, Drawings and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the Engineer for clarification and directions prior to ordering or providing any materials or labor. The Contractor shall bid the most stringent requirements.

D. Applicable Standard Specifications: The Contractor shall construct the Work specified herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards, and Specifications listed herein.

G. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

H. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

1.03 ABBREVIATIONS AND ACRONYMS

A. Wherever in these specifications references are made to the standards, specifications, or other published data of the various national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of these specifications, the following acronyms or abbreviations which may appear in these specifications shall have the meanings indicated herein.

AAMA	Architectural Aluminum Manufacturer's Association
AASHTO	American Association of the State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AFBMA	Anti-Friction Bearing Manufacturer's Association, Inc.
AGMA	American Gear Manufacturer's Association
AHGDA	American Hot Dip Galvanizers Association
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
API	American Petroleum Institute
APHA	American Public Health Association
APWA	American Public Works Association
ASA	Acoustical Society of America
ASAE	American Society of Agriculture Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers
ASLE	American Society of Lubricating Engineers
ASME	American Society of Mechanical Engineers
ASMM	Architectural Sheet Metal Manual
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturer's Association
CMA	Concrete Masonry Association
CRSI	Concrete Reinforcing Steel Institute
DIPRA	Ductile Iron Pipe Research Association
EIA	Electronic Industries Association
ETL	Electrical Test Laboratories
FBC	Florida Building Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FS	Federal Specifications
IEEE	Institute of Electrical and Electronics Engineers

IES	Illuminating Engineering Society
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
ISO	International Organization for Standardization
MBMA	Metal Building Manufacturer's Association
MTI	Marine Testing Institute
NAAM	National Association of Architectural Metal Manufacturer's
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NFPA	National Fire Protection Association
NRCA	National Roofing Contractors Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
SMACCNA	Sheet Metal and Air Conditioning Contractors National Association
SSPC	Steel Structures Painting Council
SSPWC	Standard Specifications for Public Works Construction
SFWMD	South Florida Water Management District
UL	Underwriters Laboratories, Inc.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not used)

- END OF SECTION -

SECTION 01200

PROJECT MEETINGS

PART 1 -- GENERAL

1.01 PRECONSTRUCTION

A. Upon Execution of Contracts, Owner will schedule a PreWork meeting with Contractor to cover such subjects as contract administration, permits and licenses, process for issuance of work orders and application for payments, shop drawings and submittals, material procurement, delivery and storage, Owner's field inspections, field materials testing, project site cleanliness, and other appropriate matters. The purpose of the conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established.

B. Prior to the issuance each work order Contractor and Owner shall visit the site for the purpose of discussing and determining the detailed scope of work, existing conditions that should be considered during construction and restoration, permits needed to complete the work, and any other factors that may determine or affect the scope of work. Within ten (10) days of the meeting, Contractor shall provide Owner with a detailed scope of work, detailed cost estimate (including labor, equipment and materials) with supporting documentation, and a schedule for the work. Owner will provide comments or approval for the proposal within five (5) working days of receipt from Contractor. Owner will provide Contractor with a Work Order Authorization and associated purchase order within ten (10) working days of Town's approval of proposal.

C. Prior to the commencement of Work at each site designated by a Work Order, a preconstruction conference will be held at a mutually agreed time and place which shall be attended by the Contractor, Contractor's superintendent, and any subcontractors as appropriate. Other attendees will include:
   1. Representatives of Owner.
   2. Governmental representatives as appropriate.
   3. Others as requested by Contractor or Owner.

1.02 PROGRESS

A. The Owner will schedule progress meetings as considered necessary by the Owner to assure effective execution of this Contract. The Contractor, Owner, and all subcontractors active on the site shall be represented at each meeting. Contractor may at its discretion request attendance by representatives of its suppliers, manufacturers, and other subcontractors.

B The Owner will preside at the meetings and provide for keeping and distribution of the minutes. The purpose of the meetings will be to review the progress of the Work, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop.

C. In addition, the Owner or Contractor may call for special job site meetings for the purpose of resolving unforeseen problems or conflicts which may affect the construction schedule. The Owner will prepare a brief summary report of the decisions or understandings concerning each of the items discussed at the meeting. The Owner may request the attendance of sudcontractors and Owner's consultants at these meetings.

D. At progress meetings, the Contractor shall submit to the Owner for review a current progress schedule. This schedule submission shall include a look ahead schedule and reflect the status of the Work performed to date.

PART 2 -- PRODUCTS - (Not Used)

PART 3 -- EXECUTION - (Not Used)

- END OF SECTION -

SECTION 01300

SUBMITTALS

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. This section specifies the means of all submittals. All submittals shall be submitted to the Owner. Prior to mobilization on authorized work orders Contractor shall submit to Owner a construction schedule, materials shop drawings, product samples, certificates of compliance, warranties. Submittals may be made in electronic format to Owner.

1.02 SUBMITTAL PROCEDURES

A. Transmit each submittal with a form acceptable to the Owner, clearly identifying the project and the Contractor, the enclosed material and other pertinent information specified in other parts of this section. Identify variations between Contract Documents and Product. Identify system limitations which may be detrimental to successful performance of the completed Work.

B. Revise and resubmit submittals as required, identify all changes made since previous submittals. Resubmittals shall be noted as such.

C. Distribute copies of reviewed submittals to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

1.03 CONSTRUCTION SCHEDULE

A. A construction schedule shall be prepared for each work orders authorized and issued by the Owner showing in detail the proposed sequence of the work and identifying construction activities for each major component, structure or facility. The schedule shall be time scaled, with the estimated start date and completion date of each stage of the work to completion of the work order.

B. The construction schedule shall be revised to reflect comments by the Owner and returned to Owner in a timely manner.

C. Updates to the schedule shall be provided by Contractor to Owner when requested and as often as the schedule changes regardless of the reason for the change.

1.04 PAYMENT APPLICATIONS

A. Contractor's payment applications for each work order shall include the approved work order schedule of values and unit pricing. Supporting documentation such as Town's Payment Application cover sheet, material invoices, partial/full release of liens, Contractor time and equipment sheets, as-built drawings shall accompany the application for payment.

2. No payment will be made for materials stored under this Contract. If purchased by Contractor, materials will not be paid for by Owner until incorporated into the Work.

3. Retainage in the amount of ten percent (10%) on each work order will be held until work for that work order is complete and accepted by Owner at which time retainage for that work order will be released in full.

1.05 PROGRESS ESTIMATES

A. If the schedule for a given work order, time exceeds 30 days, progress payment applications shall be submitted to the Owner in accordance with the General Conditions and shall be accompanied by supporting documentation as required by the Owner.

1.06 SHOP DRAWINGS

A. General: The Contractor shall submit for review shop drawings for concrete, reinforcement, structural details, structures, pipe, adapters, couplings, grout, road rock, asphalt, tack/prime coat, and all other materials to be incorporated into the Work of this Contract and as specifically requested by the Owner.

B. Shop drawings shall show the principal dimensions, weight, elevations, structural and operating features, type and/or brand of finish or shop coat, grease fittings, etc., depending on the subject of the Work.

C. When so specified, or if considered by the Owner to be acceptable, the manufacturer's specifications, catalog data, descriptive matter, illustrations, etc., may be submitted for review in place of shop drawings. In such case, the requirements shall be as specified for shop drawings, insofar as applicable.

D. The Contractor shall be responsible for the prompt submittal of all shop drawings so that there shall be no delay to the Work due to the absence of such Drawings. The Owner will review the shop drawings within 14 calendar days of receipt of such Drawings from Contractor. Reviewed shop drawings will be returned to the Contractor within 14 days of receipt.

E. Time delays caused by rejection of submittals are not cause for extra charges to the Owner or time extensions.

F. Requirements: All shop drawings shall be submitted to the Owner through the Contractor. The Contractor is responsible for obtaining shop drawings from his subcontractors and returning reviewed Drawings to them. All Drawings shall be clearly marked with the name of the project, Owner, Contractor, Contract and Work Order number, and structure to which the drawing applies. Drawings shall be suitably numbered and stamped by the Contractor as having been reviewed by the Contractor prior to submittal to the Owner. Submittals made without Contractor's stamp of review will be returned to Contractor not reviewed by Owner. Each submittal shall be accompanied by a letter of transmittal giving a list of the submittal numbers and names included.

G. Product Data: Where manufacturer's publications in the form of catalogs, brochures, illustrations, or other data sheets are submitted in lieu of prepared shop drawings, such submission shall specifically indicate the particular item offered. Identification of such items and relative pertinent information shall be made with indelible ink. Submissions showing only general information will not be accepted.

H. Product data shall include materials of construction, dimensions, performance characteristics and capacities, etc.

I. Sample Warranties: When warranties are called for, a sample of the warranty shall be submitted with the shop drawings. The sample warranty shall be the same form that will be used for the actual warranty.

J. Work Prior to Review: No material or equipment shall be purchased, fabricated especially for this Contract and Work Order, or delivered to the project site until the required shop drawings have been submitted, processed and marked either "APPROVED AS SUBMITTED" or "APPROVED AS NOTED". All materials incorporated into the Work shall be as represented by approved submittals.

K. The Contractor shall not proceed with any portion of the Work for which the design and details are dependent upon the design and details of equipment for which submittal review has not been completed.

L. Contractor's Review: Contractor shall thoroughly review all submittals received from suppliers, vendors, and subcontractors for accuracy and correctness prior to submitting them to the Owner for review. Contractor shall indicate his review of the submittals with the date, reviewer's name and indications of the Contractor's approval.

M. Contractor's Responsibility: The Owner's review of shop drawings will be general and shall not relieve the Contractor of the responsibility for details of design, dimensions, etc., necessary for proper fitting and construction of the Work required by the Contract and for achieving the specified performance.

N. Contractor's Modifications: For submissions containing departures from the Contract Documents, the Contractor shall include proper explanation in his letter of transmittal. Should the Contractor submit for review equipment that requires modifications to the structures, piping, layout, etc. detailed on the Drawings, he shall also submit for review details of the proposed modifications. If such equipment and modifications are accepted, the Contractor, at no additional cost to the Owner, shall do all Work necessary to make such modifications.

O. Substitutions: Whenever a particular brand or make of material, equipment, or other item is specified, or is indicated on the Drawings, it is for the purpose of establishing a standard of quality, design, and type desired and to supplement the detailed specifications. Any other brand or make which, in the opinion of the Owner, is equivalent to that specified or indicated may be offered as a substitute subject to the following provisions:

1. Contractor shall submit for each proposed substitution sufficient details, complete descriptive literature, and performance data together with samples of the materials, where feasible, to enable the Owner to determine if the proposed substitution is equal.

2. Contractor shall submit certified tests, where applicable, by an independent laboratory attesting that the proposed substitution is equal.

3. A list of installations where the proposed substitution is equal.

4. Where the acceptance of a substitution requires revision or redesign of any part of the Work, all such revision and redesign, and all new Drawings and details required therefore, shall be provided by the Contractor at his own cost and expense, and shall be subject to review of the Owner.

5. In all cases the Owner shall be the sole judge as to whether a proposed substitution is to be accepted. The Contractor shall abide by the Owner's decision when proposed substitute items are judged to be unacceptable and shall in such instances furnish the item, or substitute, as specified. No substitute items shall be used in the Work without written acceptance of the Owner

6. Acceptance of any proposed substitution shall in no way release the Contractor from any of the provisions of the Contract Documents.

P. Complete Submittals: Each submittal shall be complete in all aspects incorporating all information and data required to evaluate the products' compliance with the Contract Documents. Partial or incomplete submissions shall be returned to the Contractor without review.

1.07 PRODUCT SAMPLES

1. Contractor shall furnish for review all product samples as required by the Contract Documents or requested by the Owner to determine compliance with the specifications.

2. Samples shall be of sufficient size or quantity to clearly illustrate the quality, type, range of color, finish or texture and shall be properly labeled to show complete project identification, the nature of the material, trade name of manufacturer and location of the Work where the material represented by the sample will be used.

3. Samples shall be checked by the Contractor for conformance to the Contract Documents before being submitted to the Owner and shall bear the Contractor's stamp certifying that they have been so checked. Transportation charges on samples submitted to the Owner shall be prepaid by the Contractor.

4. Owner's review will be for compliance with the Contract Documents, and his comments will be transmitted to the Contractor with reasonable promptness.

5. Acceptable samples will establish the standards by which the completed Work will be judged.

1.08 CERTIFICATES OF COMPLIANCE

A. Copies of certificates of compliance and test reports shall be submitted for requested items to the Owner prior to request for payment.

1.09 WARRANTIES

A. Original warranties, called for in the Contract Documents, shall be submitted to the Owner through the Contractor. When warranties are required for an item, warranty shall be submitted prior to request for payment of that item.

B. When warranties are requested, a sample of the warranty to be provided shall be submitted with, and considered part of, the shop drawings.

3. The Contractor shall warrant to the Owner that all material and labor used in the construction are covered by his warrantee for a minimum of a one year period upon approval and acceptance by the Owner. The Contractor shall replace or repair defects at no cost to the Owner during the warrantee period. No visible or potential leakage shall be allowed during the warrantee period.

PART 2 -- PRODUCTS - (Not Used)

PART 3 -- EXECUTION - (Not Used)

- END OF SECTION -

SECTION 01400

QUALITY CONTROL

PART 1 -- GENERAL

1.01 QUALITY ASSURANCE

A. Quality: All materials shall be new and correctly designed, and shall conform to the requirements of Section 01090, "Reference Standards" and Section 01600, "Materials". They shall be standard first-grade quality produced by expert workmen and be intended for the use for which they are offered. Materials which, in the opinion of the Owner, are inferior or of a lower grade than indicated, specified or required will not be acceptable.

B. Source Limitations: To the greatest extent possible for each unit of Work, the Contractor shall provide products, materials, or equipment of a singular generic kind from a single source.

C. Compatibility of Options: Where more than one choice is available as options for Contractor's selection of a product, material, or equipment, the Contractor shall select an option which is compatible with other products and materials already selected. Compatibility is a basic general requirement of product/material selections.

1.02 PRODUCT EVALUATION

A. The Owner will employ and pay for the services of an independent testing laboratory for specified testing as specified by the Owner.

B. The work or actions of the testing laboratory shall in no way relieve the Contractor of his obligations under the Contract. The laboratory testing work will include such inspections and testing required by the Contract Documents, existing laws, codes, ordinances, etc. The testing laboratory will have no authority to change the requirements of the Contract Documents, nor perform, accept or approve any of the Contractor's Work.

C. The Contractor shall allow the Owner ample time and opportunity for evaluation and testing materials to be used in the Work. The Contractor shall advise the Owner promptly upon placing orders for materials so that arrangements may be made, if desired, for evaluation before shipment from the place of manufacture. The Contractor shall at all times furnish the Owner and his representatives, facilities including labor, and allow proper time for evaluation and testing materials, and workmanship. The Contractor must anticipate that possible delays may occur in the execution of its work due to the necessity of materials being inspected and accepted for use. The Contractor shall furnish, at his own expense, all samples of materials required by the Owner for testing, and shall make his own arrangements for providing water, electric power, or fuel for the various evaluation and tests of structures and materials.

D. The Owner will bear the cost of all tests, evaluation, or investigations undertaken by the order of the Owner for the purpose of determining conformance with the Contract Documents if such tests, evaluation, or investigations are not specifically required by the Contract Documents, and if conformance is ascertained thereby. Whenever

nonconformance is determined by the Owner as a result of such tests, evaluation, or investigations, the Contractor shall bear the full cost of any additional tests, evaluations and investigations, which are ordered by the Owner to ascertain subsequent conformance with the Contract Documents.

1.03 EVALUATION AT PLACE OF MANUFACTURE

A. Unless otherwise specified, all products and materials shall be subject to evaluation by the Owner at the place of manufacture.

B. The presence of the Owner at the place of manufacture however, shall not relieve the Contractor of the responsibility for furnishing products, materials, and equipment which comply with all requirements of the Contract Documents. Compliance is a duty of the Contractor, and said duty shall not be avoided by any act or omission on the part of the Owner.

1.04 SAMPLING AND TESTING

A. Unless otherwise specified, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered; however, the Owner reserves the right to use any generally-accepted system of sampling and testing which, in the opinion of the Owner will insure the Owner that the quality of the workmanship is in full accord with the Contract Documents.

B. Any waiver by the Owner of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial Work, shall not be construed as a waiver of any requirements of the Contract Documents.

C. Notwithstanding the existence of such waiver, the Owner reserves the right to make independent investigations and tests and failure of any portion of the Work to meet any of the requirements of the Contract Documents, shall be reasonable cause for the Owner to require the removal or correction and reconstruction of any such work in accordance with the General Conditions.

D. In addition to any other evaluation, observation or quality assurance provisions that may be specified, the Owner shall have the right to independently select, test, and analyze, at the expense of the Owner, additional test specimens or any or all of the materials to be used. Results of such tests and analyses shall be considered along with the tests or analyses made by the Contractor to determine compliance with the applicable specifications for the materials so tested or analyzed; provided, that testing or investigation by the Owner, which fails to meet the requirements of the Contract Documents, all costs of such independent inspection and investigation, and all costs of removal, correction, and reconstruction or repair of any such Work shall be borne by the Contractor.

1.05 SITE INVESTIGATION AND CONTROL

A. The Contractor shall verify all dimensions in the field and shall check field conditions continuously during construction. The Contractor shall be solely responsible for any inaccuracies built into the Work due to its failure to comply with this requirement.

B. The Contractor shall inspect related and appurtenant Work and shall report in writing to the Owner any conditions which will prevent proper completion of the Work. Failure to report any such conditions shall constitute acceptance of all site conditions, and any required removal, repair, or replacement caused by unsuitable conditions shall be performed by the Contractor at its sole cost and expense.

1.06 RIGHT OF REJECTION

A. The Owner shall have the right, at all times and places, to reject any articles or materials to be furnished hereunder which, in any respect, fail to meet the requirements of the Contract Documents, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the Work at the site. If the Owner, through an oversight or otherwise, has accepted materials or Work which is defective or which is contrary to the Contract Documents, such materials, no matter in what stage or condition of manufacture, delivery, or erection, may be subsequently rejected by the Owner.

B. The Contractor shall promptly remove rejected articles or materials from the site of the Work after notification of rejection. All costs of removal and replacement of rejected articles or materials as specified herein shall be borne by the Contractor.

1.07 WATERTIGHTNESS OF STRUCTURES

A. It is the intent of these specifications that all concrete work, sealing work around built-in items and penetrations be performed as required to ensure that groundwater and/or rainwater will not leak into any repaired collection line, service lateral, manhole, or other type structure.

B. The required watertightness shall be achieved by quality construction and proper sealing of all pipes and manholes.

C. The Contractor shall provide at its own expense all labor, material, temporary bulkheads, pumps, water, measuring devices, plugs, etc., necessary to perform the required tests.

1.08 HYDRAULIC UPLIFT ON STRUCTURES

A. The Contractor shall be completely responsible for any pipelines, inlets or manholes that may become buoyant during the construction operations due to the groundwater or floods and before the structure is put into operation. Should there be any possibility of buoyancy of a structure the Contractor shall take the necessary steps to prevent its buoyancy. Damage to any structures due to floating or flooding shall be repaired or the structures replaced at the Contractor's expense.

1.09 CUTTING AND PATCHING

A. The Contractor shall perform all cutting and patching of the Work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The Contractor shall not endanger any work of others by cutting, excavating or otherwise altering their work and shall only cut or alter work with the written consent of the Owner and of the other contractors whose work will be affected.

1.10 REMOVAL OF EXISTING PIPELINES

A. General: The scope of work requires the Contractor to interface with existing piping which will be removed as part of the work. Prior to beginning any work associated with existing facilities to be removed, the Contractor shall inform the Owner of his intent so that all arrangements can be made with the Owner for disconnecting or isolating pipelines (where possible) from service to the extent possible. The Contractor shall not proceed without written authorization from the Owner.

B. Pipelines: The Contractor shall remove existing pipelines or segments of existing pipelines shown to be replaced as part of the contract work. Pipe being replaced with new pipe shall be excavated and removed using methods which will not disturb adjacent pipe or other facilities. After pipe has been removed and new pipe installed, Contractor shall backfill the evacuated area in accordance with requirements set forth in other sections of these specifications.

C. Where new pipe is to be connected to existing pipe the existing pipe shall be cut square and the ends properly prepared for the connection. Any damage to the pipe, lining or coating of the existing pipe shall be repaired by the Contractor. Damage to new pipe shall be replaced.

D. Disposal of Debris: All debris, materials, pipe and miscellaneous waste products generated during the Work shall be removed from the job site as soon as possible and be disposed of in accordance with applicable federal, state, and local regulations. The Contractor is responsible for determining these regulations and shall bear all costs or retain any profit associated with disposal of these items.

1.11 OBSERVATION OF THE WORK

A. The Work shall be conducted under the general observation of the Owner/Town Representative to ensure strict compliance with the requirements of the Contract Documents. Such observation may include mill, plant, shop, or field observation, as required. The Owner shall be permitted access to all parts of the Work, including plants where materials are manufactured or fabricated.

B. The presence of the Owner or any observer, however, shall not relieve the Contractor of the responsibility for the proper execution of the Work in accordance with all requirements of the Contract Documents. Compliance is a duty of the Contractor, and said duty shall not be avoided by any act or omission on the part of the Owner or any observer.

C. All materials and articles furnished by the Contractor shall be subject to rigid inspection, and no materials or articles shall be used in the Work until they have been inspected and accepted by the Owner or its representative. No Work shall be backfilled, buried, cast in concrete, hidden or otherwise covered until it has been inspected by the Owner or its

authorized representative. Any Work so covered in the absence of inspection shall be subject to uncovering at Contractor's expense. Where uninspected Work cannot be uncovered, such as in concrete cast over reinforcing steel, all such Work shall be subject to demolition, removal, and reconstruction under proper inspection and no additional payment will be allowed therefore.

1.12 TIME OF OBSERVATION AND TESTS

A. Samples and test specimens required under these Specifications shall be furnished and prepared for testing in ample time for the completion of the necessary tests and analyses before said articles or materials are to be used. The Contractor shall furnish and prepare all required test specimens within the scope of the Contract. Except as otherwise provided in the Contract Documents, performance of the required tests will be by the Owner, and all costs therefore will be borne by the Owner at no cost to the Contractor, except that the costs of any test which shows unsatisfactory results shall be borne by the Contractor. Whenever the Contractor is ready to backfill, bury, cast in concrete, hide, or otherwise cover any Work under the Contract, the Owner shall be notified not less than twenty-four hours in advance to request inspection before beginning any such Work of covering. Failure of the Contractor to notify the Owner at least twenty-four hours in advance of any such inspections shall be reasonable cause for the Owner to order a sufficient delay in the Contractor's schedule to allow time for such inspections and any remedial or corrective Work required, and all costs of such delays, including its effect upon other portions of the Work, shall be borne by the Contractor.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

- END OF SECTION -

SECTION 01500

CONSTRUCTION CONSIDERATIONS

PART 1 -- GENERAL

1.01 CUTTING AND PATCHING

A. The Contractor shall perform all cutting and patching of his Work that may be required to make its several parts come together properly and fit it to receive or be received by such other work. The Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering their work and shall only cut or alter work with the written consent of the Owner and of the other contractors whose work will be affected.

1.02 ABANDONMENT AND SALVAGE OF EXISTING FACILITIES

A. General: The Scope of Work requires the Contractor to interface with existing facilities (pipe and structures) which will be abandoned as part of the Work. Prior to beginning any Work associated with existing facilities to be abandoned, the Contractor shall inform the Owner of his intent so that arrangements can be made with the Owner for isolating pipelines (where necessary and possible). The Contractor shall not proceed without written authorization from the Owner.

B. Pipelines: The Contractor shall abandon, salvage, or otherwise remove existing pipe or segments of existing pipe to be removed or replaced as part of the Contract Work.

C. Pipe to be removed which interferes with new structures or new pipe shall be excavated and removed using methods which will not disturb adjacent pipe or other facilities. After pipe has been removed, the Contractor shall backfill the excavated area in accordance with requirements set forth in other Sections of these Specifications.

1.03 REHABILITATION

A. Certain areas of existing structures, pipe, conduit, and the like that will be affected by Work will be rehabilitated/repaired by the Contractor.

B. Where new pipe is to be connected to existing pipe the existing piping shall be cut square, and the ends shall be properly prepared for the connection. Any damage to either pipe shall be repaired by the Contractor at his expense.

C. Disposal of Debris: All debris, materials, piping, and miscellaneous waste products from the Work described in this Section shall be removed from the project as soon as possible and disposed of in accordance with applicable federal, state, and local regulations. The Contractor is responsible for determining these regulations and shall bear all costs or retain any profit associated with disposal of these items.

1.04 INSTALLATION OF NEW PIPE

A. Contractor shall have on hand sufficient personnel, proper equipment, and machinery of ample capacity to facilitate the Work.

B. Contractor shall be responsible for locating, aligning and leveling new pipe and shall employ a licensed surveyor to set all lines and levels of equipment to the accuracy required.

C. Complete manufacturer's installation instructions including permissible tolerances shall be furnished in duplicate with each component of the pipeline.

D. The new pipeline shall be installed in accordance with the Shop Drawings; inclusive of manufacturer's specifications, drawings, and tolerances; and under the direct supervision of the required manufacturer's engineer. No instructions shall be issued that are contrary to written Specifications without prior written approval by the Owner's Engineer.

1.05 OBSTRUCTIONS

A. All water pipes, storm drains, sanitary sewers, force mains, gas or other pipe, telephone or power cables, or conduits and all other obstructions, whether or not shown, shall be temporarily supported across utility line excavations. The Contractor shall be responsible for any damage to any such pipes, conduits, or structures. Approximate locations of known water, sanitary, drainage, power, and telephone installations along route of new pipelines or in the vicinity of new Work must be verified in the field by the Contractor. The Contractor shall uncover these pipes, ducts, cables, etc., carefully, by hand, prior to installing new pipe or structures. Any discrepancies or differences found shall be brought to the attention of the Owner in order that necessary changes may be made to permit installation of new Work. These conditions are supplemental to general requirements elsewhere in the Contract Documents.

1.06 PROTECTION OF PROPERTY

A. The Contractor shall protect all property that may be affected by his Work or operations. The location and extent of underground and covered facilities are not guaranteed and the Contractor is cautioned to proceed with care in order to prevent the undermining or damage to existing structures, piping, or facilities.

B. The Contractor shall take all measures necessary to protect new and existing mechanical equipment from dust and debris. All protective measures shall be furnished, installed, lighted, ventilated, maintained, and removed at the Contractor's cost.

C. When Town water is being used, the supply source shall be protected against contamination in accordance with existing codes and regulations. Connection to Town water must be coordinated with Owner.

D. In the event that any of the Contractor's activities disrupt or endanger any facilities, he shall at his own expense make all necessary repairs or replacements necessary to correct the situation to the satisfaction of the Owner. Such work shall progress

continuously to completion 24 hours per day, 7 days per week basis if determined by the Owner to be necessary. The Contractor shall be responsible for the services of repair crews on call 24 hours per day for emergencies that arise involving Work under this Contract.

1.07 WEATHER CONDITIONS

A. Work that may be affected by inclement weather shall be suspended until proper conditions prevail. In the event of impending storms the Contractor shall take necessary precautions to protect all Work, materials, and equipment from exposure. The Owner reserves the right, to order that additional protective measures over and beyond those proposed by the Contractor, be taken to safeguard all components of the project. The Contractor shall not claim any compensation for such precautionary measures so ordered, nor claim any compensation from the Owner for damage to the Work from the elements of weather.

1.08 FIRE PROTECTION

A. The Contractor shall take all necessary precautions to prevent fires at or adjacent to the Work, including his own buildings and trailers. Adequate fire extinguisher and hose line stations shall be provided throughout the work area.

1.09 SAFETY AND HEALTH REQUIREMENTS

A. The Contractor shall comply in every respect with all Federal, State, and local safety and health regulations.

B. The Contractor shall provide all barricades and flashing warning lights or other devices necessary to warn pedestrians and area traffic.

PART 2 -- PRODUCTS - (Not Used)

PART 3 -- EXECUTION - (Not Used)

- END OF SECTION -

PART 2 -- PRODUCTS - (Not Used)

PART 3 -- EXECUTION - (Not Used)

- END OF SECTION -

SECTION 01520

MAINTENANCE OF FACILITIES AND SEQUENCE OF CONSTRUCTION

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall coordinate his Work so as not to impact any nearby public or private facilities. In performing the Work shown and specified, the Contractor shall plan and schedule his Work as outlined in Article 1.07 of this Section entitled "General Sequence Of Construction And Operation".

1.02 CONSTRUCTION SCHEDULE

A. The Construction Schedule shall be submitted by the Contractor in accordance with Section 01300 entitled "Submittals".

1.03 USE OF FACILITIES BEFORE COMPLETION

A. The Owner reserves the right to enter and use any portion of the constructed facilities before final completion of the whole Work to be done under the Contract.

1.04 CONNECTION OF EXISTING SYSTEMS

A. All connections to existing systems shall be performed in such a manner that no damage and minimal interruption is caused to the existing installation. Upon completion of the installation and approval from the Palm Beach County Health Department, the Contractor shall schedule with the Owner tying in the new watermain to existing watermain. Any damage caused to existing installations shall be repaired or replaced by the Contractor, in a manner approved by the Owner, and at no additional cost to the Owner.

1.05 COORDINATION WITH UTILITY PERSONNEL

A. Before commencing Work involving the removal of existing facilities or placement in operation of new facilities or tie-ins to existing facilities, the Contractor shall notify the Owner at least 36 hours in advance.

1.06 COORDINATION WITH PRIVATE PROPERTY OWNER

A. Work directly adjacent to private properties shall be coordinated with the Owner and the adjacent property owner prior to mobilization of equipment, personnel, and materials.

1.07 GENERAL SEQUENCE OF CONSTRUCTION AND OPERATION

A. Work under the Contract shall be scheduled and performed in such a manner as to result in the least possible disruption to the public's use of roadways, driveways, and utilities. Utilities shall include but not be limited to water, sewerage, drainage structures, electrical, cable, and telephone service. Prior to commencing with the Work, the

Contractor shall perform a location investigation of existing underground utilities and facilities in accordance with Section 01530 entitled "Protection of Existing Facilities".

B. The outlined sequence of construction does not include all items necessary to complete the Work, but is intended to identify the sequence of critical events necessary to minimize disruption to the function of affected facilities. It shall be understood by the Contractor that the critical events identified are not all inclusive and that additional items of Work not shown may be required. The sequence of construction is a precedence requirement and does not attempt to schedule the Contractor's Work. It is intended only to indicate which activities must precede other activities in order to minimize interferences and disruptions.

C. At no time shall the Contractor undertake to close off any pipelines, manipulate valves, or take any other action which would affect the operation of the existing system, except as specifically required by the Drawings and Specifications, until authorization is granted by the Owner and after proper notification.

D. Temporary installations required to complete a particular aspect of the Work during the allotted time period shall be determined and implemented by the Contractor at no additional cost to the Owner. All such temporary installations shall be subject to the review and acceptance of the Owner.

E. Sequence of certain major events and identification of time constraints for removing piping and equipment from active service are as follows:

1. Phase I - Mobilization:

    a. Mobilize for work – set up staging area; develop and submit pollution prevention plan, dewatering disposal submittal, construction schedule and Shop Drawing Schedule; obtain permits; and begin submitting Shop Drawings (except those requiring verification of facilities - for those items verification should precede submittals).

2. Phase II - Site Preparation:

    a. Verify locations of facilities, elevations, dimensions, type of joints, manufacturer of equipment, etc., before ordering materials to complete the Work in accordance with the Contract Documents and field conditions.

    b. Obtain equipment and materials to implement approved pollution prevention plan, approved dewatering disposal plan and meet all permitting requirements related to pollution prevention and testing/dewatering water containment and disposal.

    c. Order pipe, structures, adapters, plugs, etc and other long lead items so that materials may be delivered in a timely fashion without delay to construction.

    d. Meet all preconstruction requirements as noted in applicable permits associated with the Work.

3. Phase III – Construction:

a. Once Phase I and II are complete, the Contractor may proceed with the Work.

7. Phase VII - Final Sitework and Closeout:

a. Remove temporary plugs.

b. Restoration, final grading, sodding, punch list work.

c. Remove turbidity barriers, filter fabric, and other Best Management Practices (BMPs) installed for construction.

c. Demobilize and start closeout activities as described in Section 01700 entitled "Project Closeout".

F. Other Construction Constraints: The Contractor shall comply with the following constraints during construction and utilize these constraints in determining a sequence of construction:

1. A pre-construction video of the areas to be affected by construction and adjacent surrounding areas must be provided to and accepted by the Owner prior to mobilization.

2. All drives and approaches shall be restored to a useable condition at the end of each work day.

3. Maintain access to mailboxes or relocate as required and as approved by Post Master.

4. Excavations in residential areas shall be backfilled, and temporary restoration shall be completed at the end of each work week. No open holes will be allowed at night or over weekends or holidays. All excavation shall be secured at the end of each work day to prohibit public access.

5. Final restoration of roads, driveways, sidewalks, and all other paved areas shall be complete within 14 days of pipe and structure installation.

PART 2 -- PRODUCTS - (Not Used)

PART 3 -- EXECUTION

3.01 COORDINATION WITH EXISTING UTILITIES AND OTHER AGENCIES

A. The Contractor shall notify all utilities including Loxahatchee River District (LRD), FPL, Bell South, cable, etc. in writing, with a copy to the Owner, before construction is started and shall coordinate its activities with them. The Contractor shall cooperate with the owner's of utilities that may require temporary interruption of service in order to minimize the interruption. The Contractor shall call Sunshine One-Call Notification at 1-800-432-4770 a minimum of 48 hours prior to any excavation for location of existing underground facilities.

3.02 COOPERATION

A. The Contractor shall allow representatives from the permitting agencies, Owner or their agents to enter the facilities being constructed under this Contract for the purpose of inspecting, constructing, installing, operating, maintaining, removing, repairing, altering, or replacing such equipment pipes, sewers, conduits, manholes, wires, or other structures and appliances which may be required to be installed at or in the Work. The Contractor shall cooperate with all of the aforesaid parties and shall allow reasonable provisions for the prosecution of any other work by the Owner, or others, to be done in connection with his Work or in connection with normal use of the facilities.

- END OF SECTION -.

SECTION 01530

PROTECTION OF EXISTING FACILITIES

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. Contractor shall be responsible for the preservation and protection of property adjacent to the work site against damage or injury as a result of his operations under this Contract. Any damage or injury occurring on account of any act, omission or neglect on the part of the Contractor shall be restored in a proper and satisfactory manner or replaced by and at the expense of the Contractor to an equal or superior condition than previously existed.

B. Contractor shall comply promptly with such safety regulations as may be prescribed by the Owner or the local authorities having jurisdiction and shall, when so directed, properly correct any unsafe conditions created by, or unsafe practices on the part of, his employees. In the event of the Contractor's failure to comply, the Owner may take the necessary measures to correct the conditions or practices complained of, and all costs thereof will be deducted from any monies due the Contractor. Failure of the Owner to direct the correction of unsafe conditions or practices shall not relieve the Contractor of his responsibility hereunder.

C. In the event of any claims for damage or alleged damage to property as a result of work under this Contract, the Contractor shall be responsible for all costs in connection with the settlement of or defense against such claims. Prior to commencement of work in the vicinity of property adjacent to the work site, the Contractor, at his expense, shall take such surveys as may be necessary to establish the existing condition of the property. Before final payment can be made, the Contractor shall furnish satisfactory evidence that all claims for damage have been legally settled or sufficient funds to cover such claims have been placed in escrow, or that an adequate bond to cover such claims has been obtained.

1.02 PROTECTION OF WORK AND MATERIAL

A. During the progress of the work and up to the date of final payment, the Contractor shall be solely responsible for the care and protection of all work and materials covered by the Contract.

B. All work and materials shall be protected against damage, injury or loss from any cause whatsoever, and the Contractor shall make good any such damage or loss at his own expense. Protection measures shall be subject to the approval of the Owner.

1.03 BARRICADES, WARNING SIGNS AND LIGHTS

A. Each Contractor shall provide and maintain such other warning signs and barricades in areas of and around their respective work as may be required for the safety of all those employed in the work, the Owner's operating personnel, or those visiting the site.

1.04 EXISTING UTILITIES AND STRUCTURES

A. The term existing utilities shall be deemed to refer to both publicly-owned and privately-owned utilities such as electric power and lighting, telephone, water, gas, storm drains, process lines, sanitary sewers and all appurtenant structures.

B. Where existing utilities and structures are indicated on the Drawings, it shall be understood that all of the existing utilities and structures affecting the work may not be shown and that the locations of those shown are approximate only. It shall be the responsibility of the Contractor to ascertain the actual extent and exact location of existing utilities and structures. In every instance, the Contractor shall notify the proper authority having jurisdiction and obtain all necessary directions and approvals before performing any work in the vicinity of existing utilities.

C. Prior to beginning any excavation work, the Contractor shall, through field investigations, determine any conflicts or interferences between existing utilities and new utilities to be constructed under this project. This determination shall be based on the actual locations, elevations, slopes, etc., of existing utilities as determined in the field investigations, and locations, elevation, slope, etc. of new utilities as shown on the Drawings. If an interference exists, the Contractor shall bring it to the attention of the Owner as soon as possible. If the Owner agrees that an interference exists, he shall modify the design as required. Additional costs to the Contractor for this change shall be processed through a Change Order as detailed elsewhere in these Contract Documents. In the event the Contractor fails to bring a potential conflict or interference to the attention of the Owner prior to beginning excavation work, any actual conflict or interference which does arise during the Project shall be corrected by the Contractor, as directed by the Owner, at no additional expense to the Owner.

D. The work shall be carried out in a manner to prevent disruption of existing services and to avoid damage to the existing utilities. Temporary connections shall be provided, as required, to insure there is no interruption of existing services. Any damage resulting from the work of this Contract shall be promptly repaired by the Contractor at his own expense in a manner approved by the Owner and further subject to the requirements of any authority having jurisdiction. Where it is required by the authority having jurisdiction that they perform their own repairs or have them done by others, the Contractor shall be responsible for all costs thereof.

E. Where excavations by the Contractor require any utility lines or appurtenant structures to be temporarily supported and otherwise protected during the construction work, such support and protection shall be provided by the Contractor. All such work shall be performed in a manner satisfactory to the Owner and the respective authority having jurisdiction over such work. In the event the Contractor fails to provide proper support or protection to any existing utility, the Owner may, at his discretion, have the respective authority to provide such support or protection as may be necessary to insure the safety of such utility, and the costs of such measures shall be paid by the Contractor.

PART 2 -- PRODUCTS - (NOT USED)

PART 3 -- EXECUTION - (NOT USED)

- END OF SECTION -

SECTION 01550

SITE ACCESS AND STORAGE

PART 1 -- GENERAL

1.01 SITE ACCESS

A. Work may be required in various locations throughout the Town. Therefore, the Contractor shall make its own general investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation within the Town limits. It shall be the Contractor's responsibility to construct and maintain any haul roads required for its construction operations.

1.02 TEMPORARY CROSSINGS

A. General: Wherever necessary or required for the convenience of the public or individual residents at street or highway crossings, private driveways, or elsewhere, the Contractor shall provide suitable temporary bridges over unfilled excavations, except in such cases as the Contractor shall secure the written consent of the individuals or authorities concerned to omit such temporary bridges, which written consent shall be delivered to the Owner prior to excavation. All such bridges shall be maintained in service until access is provided across the backfilled excavation. Temporary bridges for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the Contractor shall adopt designs furnished by said authority for such bridges, or shall submit designs to said authority for approval, as may be required.

B. Street Use: Nothing herein shall be construed to entitle the Contractor to the exclusive use of any public street, alleyway, or parking area during the performance of the Work hereunder, and he shall so conduct his operations as not to interfere unnecessarily with the authorized work of utility companies or other agencies in such streets, alleys, ways, or parking areas. No street shall be closed to the public without first obtaining permission of the Owner and proper governmental authority. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise provided or shown. Toe boards shall be provided to retain excavated material if required by the Owner or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the Work shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the Contractor to assure the use of sidewalks and the proper functioning of all gutters, sewer inlets, and other drainage facilities.

C. Traffic Control: For the protection of traffic in public or private streets and ways, the Contractor shall provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices in accordance with the requirements of the "Manual of Uniform Traffic Control Devices, Part VI - Traffic Controls for Street and Highway Construction and Maintenance Operations," published by U.S. Department of transportation, Federal Highway Administration (ANSI D6.1).

D. The Contractor shall take all necessary precautions for the protection of the Work and the safety of the public. All barricades and obstructions shall be illuminated at night, and all

lights shall be kept burning from sunset until sunrise. The Contractor shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of Subpart G, Part 1926, of the OSHA Safety and Health Standards for Construction.

E. For each work order, the Contractor shall submit a traffic control plan/MOT plan to the Owner for approval a minimum of two weeks prior to construction. The Town of Jupiter reserves the right to observe these traffic control plans in use and to make any changes as field conditions warrant. Any changes shall supersede these plans and be done solely at the Contractor's expense. The Contractor shall keep a copy of the traffic control plan on site at all times of construction. If the work affects traffic on Palm Beach County or FDOT roadways, traffic control plans shall also be submitted to those agencies for approval.

F. The Contractor shall remove traffic control devices when no longer needed, repair all damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.

G. Temporary Street Closure: If closure of any street is required during construction, a formal application for a street closure shall be made to the authority having jurisdiction at least 30 days prior to the required street closure in order to determine necessary sign and detour requirements.

H. Temporary Driveway Closure: The Contractor shall notify the Owner or occupant (if not owner-occupied) of the closure of the driveways to be closed more than one eight-hour work day, at least three working days prior to the closure. The Contractor shall minimize the inconvenience and minimize the time period that the driveways will be closed. The Contractor shall fully explain to the owner/occupant how long the work will take and when closure is to start.

I. Temporary Bridges: Whenever necessary, the Contractor shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases as the Contractor shall secure the written consent of the individuals or authorities concerned to omit such temporary bridges or steel plates, which written consent shall be delivered to the Engineer prior to excavation. All such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation. Temporary bridges or steel plates for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the Contractor shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.

1.03 STORAGE

A. Responsibility for protection and safekeeping of equipment and materials will be solely that of the Contractor, and no claim shall be made against the Owner by reason of any act of an employee or trespasser. Should an occasion arise necessitating access to an area occupied by stored equipment and/or materials, the Contractor shall immediately move them.

B. Upon completion of the Contract, the Contractor shall remove from the storage areas all of their equipment, temporary fencing, surplus materials, rubbish, etc., and restore the area to its original or better conditions.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

- END OF SECTION -

SECTION 01560

TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 -- GENERAL

1.01 EXPLOSIVES AND BLASTING

A. The use of explosives on the Work will not be permitted.

1.02 DUST ABATEMENT

A. The Contractor shall furnish all labor, equipment, and means required and shall carry out effective measures wherever and as often as necessary to prevent its operation from producing dust in amounts damaging to property, cultivated vegetation, or domestic animals, or causing a nuisance to persons living in or occupying buildings in the vicinity. The Contractor shall be responsible for any damage resulting from any dust originating from its operations. The dust abatement measures shall be continued until the Contractor is relieved of further responsibility by the Owner. No separate payment will be allowed for dust abatement measures and all costs thereof shall be included in the Contractor's bid price.

1.03 RUBBISH CONTROL

A. During the progress of the Work, the Contractor shall keep the site of the Work and other areas used in a neat and clean condition, and free from any accumulation of rubbish. The Contractor shall dispose of all rubbish and waste materials of any nature occurring at the Work site, and shall establish regular intervals of collection and disposal of such materials and waste. The Contractor shall also keep its haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Disposal of all rubbish and surplus materials shall be off the site of construction in accordance with local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and to the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.

1.04 SANITATION

A. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for use of employees. Toilets at construction job sites shall conform to the requirements of Part 1926 of the OSHA Standards for Construction.

B. Such facilities shall be made available when the first employees arrive on the Work site, shall be properly secluded from public observation, and shall be constructed and maintained in suitable numbers and at such points and in such manner as may be required.

C. The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He shall rigorously prohibit the committing of nuisances on the site of the Work, on the lands of the Owner, or an adjacent property.

D. The Owner shall have the right to inspect any building or other facility erected, maintained, or used by the Contractor, to determine whether or not the sanitary regulations have been complied with.

E. Sanitary and Other Organic Wastes: The Contractor shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the Contractor or organic material wastes from any other source related to the Contractor's operations shall be disposed of away from the site in a manner satisfactory to the Owner and in accordance with all laws and regulations pertaining thereto.

1.05 CHEMICALS

A. All chemicals used during project construction or furnished for project operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, paint, fuel, solvent or reactant of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. The handling, storage, use and disposal of all such chemicals and disposal of residues shall be in strict accordance with all applicable rules and regulations of Federal, State and local jurisdictional agencies and the printed instructions of the manufacturer and all regulatory requirements. Copies of antidote literature shall be kept at the storage site and at the Contractor's job site office. A supply of antidotes shall be kept at the Contractor's office.

1.06 NOISE CONTROL

A. Noise resulting from the Contractor's work shall not exceed the noise levels and other requirements stated in local ordinances. The Contractor shall be responsible for curtailing noise resulting from his operation. He shall, upon written notification from the Owner or the noise control officers, make any repairs, replacements, adjustments, additions and furnish mufflers when necessary to fulfill requirements.

1.07 EROSION ABATEMENT AND WATER POLLUTION

A. It is imperative that any Contractor dewatering operation should not contaminate or disturb the environment or the properties adjacent to the work. The Contractor shall, therefore, schedule and control his operations to confine all runoff water from disturbed surfaces, water from dewatering operations that becomes contaminated with lime silt, muck and other deleterious matter, fuels, oils, bitumens, calcium chloride, chemicals and other polluting materials.

B. The Contractor shall construct temporary stilling basin(s) of adequate size and provide all necessary temporary materials, operations and controls including, but not limited to, filters, coagulants, screens, and other means necessary to attain the required discharge water quality.

C. The Contractor shall be responsible for providing, operating and maintaining materials and equipment used for conveying the clear water to the point of discharge. All pollution prevention procedures, materials, equipment and related items shall be operated and maintained until such time as the dewatering operation is discontinued. Upon the removal of the materials, equipment and related items, the Contractor shall restore the area to the condition prior to its commencing work.

1.08 PRECAUTIONS DURING ADVERSE WEATHER

A. During adverse weather, and against the possibility thereof, the Contractor shall take all necessary precautions so that the work may be properly done and satisfactory in all respects. When required, protection shall be provided by use of tarpaulins, wood and building paper shelters, or other acceptable means. The Contractor shall be responsible for all changes caused by adverse weather.

B. The Owner may suspend construction operations at any time when, in his judgment, the conditions are unsuitable or the proper precautions are not being taken, whatever the weather conditions may be, in any season.

1.09 HURRICANE AND STORM WARNINGS

A. During such periods of time as are designated by the United States Weather Bureau as being a hurricane alert, watch or warning, the Contractor shall perform all precautions as necessary to safeguard the work and property, including the removal of all small equipment and materials from the site, lashing all other equipment and materials to each other and to rigid construction, and any other safety measures as indicated below.

B. Upon Notification of a Hurricane Alert:

1. Upon issuance of a Hurricane Alert by the Town, all Contractors performing work within the right-of-way of a designated evacuation route shall immediately secure their work, backfill all excavations within the right-of-way and suitably prepare the roadway surface for full traffic flow. This work shall be completed within 24 hours of the issuance of the alert. Work shall not recommence until the "All Clear" is issued by the Town.

2. Contractors performing at all other locations shall remove all unnecessary debris, materials, and equipment from the job site. The Contractor shall also keep his crew on standby on weekends and holidays during the Hurricane Alert period.

C. Upon Notification of a Hurricane Watch:

1. Contractors shall implement their approved Plan of Action to protect the project and the public.

D. Upon Notification of a Hurricane Warning

1. Contractors shall implement their approved Plan of Action to protect the project and the public.

2. For work within the public right-of-ways, the Contractor will be notified by the Town to suspend his construction operations. The Contractor will backfill all open trenches, remove all construction equipment and materials from the right-of-way and secure operations pending further notice.

1.10 PERIODIC CLEANUP AND BASIC SITE RESTORATION

A. During construction, the Contractor shall regularly remove from the site all accumulated debris and surplus materials of any kind which results from its operations. Unused equipment and tools shall be stored at the Contractor's yard or base of operations for the project.

B. The Contractor shall perform the cleanup work on a regular basis and as frequently as ordered by the Owner. Basic site restoration in a particular area shall be accomplished immediately following the installation or completion of the required facilities in that area. Furthermore, such work shall also be accomplished, when ordered by the Owner, if partially completed facilities must remain incomplete for some time period due to unforeseen circumstances.

C. Upon failure of the Contractor to perform periodic clean-up and basic restoration of the site to the Owner's satisfaction, the Owner may, upon 5 days prior written notice to the Contractor, employ such labor and equipment as it deems necessary for the purpose, and all costs resulting therefrom shall be charged to the Contractor and deducted from amounts of money that it may be due.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

- END OF SECTION -

SECTION 01570

TRAFFIC REGULATIONS AND MAINTENANCE OF TRAFFIC

PART 1 -- GENERAL

1.01 TRAFFIC CONTROL

A. Contractor shall obey all traffic laws and comply with all the requirements, rules and regulations of the Florida State Department of Transportation, Town of Jupiter, and other local authorities having jurisdiction, to maintain adequate warning signs, lights, barriers, etc., for the protection of traffic on public roadways.

B. The Contractor shall maintain traffic and protect the public from all damage to persons and property within the Contractors Work Limits and Area, in accordance with the Contract Documents and all applicable state, county and local regulations. He shall conduct his operations so as to maintain and protect access, for vehicular and pedestrian traffic, to and from all properties and business establishments adjoining or adjacent to those streets affected by his operations, and to subject the public to a minimum of delay and inconvenience. Suitable signs, barricades, railing, etc., shall be erected and the work outlined by adequate lighting at night. Danger lights shall be provided as required. Watchmen and flagmen shall be provided as may be necessary for the protection of traffic.

C. Maintenance of Traffic Plans (M.O.T.): After Notification to Proceed for any given Work Order, the Contractor shall immediately prepare and submit Maintenance of Traffic (M.O.T.) Plans to the Town of Jupiter Utilities Department for approval. The traffic maintenance plan must meet the Department's requirements. Said M.O.T. Plans shall be in written form with sketches or drawings as necessary and shall comply with the Department and State of Florida Department of Transportation standards for M.O.T. in construction areas. The Plans shall be submitted as soon as possible and not later than two weeks prior to any construction work. A copy of approval shall be provided to the Engineer. If the work affects traffic on Palm Beach County or FDOT roadways, M.O.T. plans shall be submitted to those agencies for approval.

D. The Contractor shall maintain one copy of the approval M.O.T. plan on the construction site for inspection. The Town of Jupiter Utilities Department reserves the right to observe the M.O.T. plan in use and to make any changes as field conditions warrant. Any changes shall supersede the plan and be done at the Contractor's expense.

E. All dirt spilled from the Contractor's trucks on existing pavements shall be removed by the Contractor whenever in the opinion of the Engineer the accumulation is sufficient to cause the formation of mud, dust, interference with traffic or create a traffic hazard.

F. The Contractor shall comply with all traffic regulations and perform maintenance of traffic as part of his pipe replacement operation. No separate payment item shall be made.

PART 2 -- PRODUCTS - (Not Used)

PART 3 -- EXECUTION - (Not Used)

- END OF SECTION -

SECTION 01600

EQUIPMENT AND MATERIALS

PART 1 -- GENERAL

1.01 GENERAL

A. All equipment, materials, instruments, or devices incorporated in this project shall be new and unused, unless indicated otherwise in the Contract Documents.

B. Equipment and materials to be incorporated in the Work shall be delivered sufficiently in advance of their installation and use to prevent delay in the execution of the Work, and they shall be delivered as nearly as feasible in the order required for executing the Work.

C. The Contractor shall protect all equipment and materials from deterioration and damage. The equipment and materials shall be handled and stored by the manufacturer, fabricator supplier, and Contractor before, during, and after shipment to prevent warping, twisting, bending, breaking, chipping, rusting, and any injury, damage or theft of any kind whatsoever. Any equipment exhibiting any of the above shall be removed and replaced at the Contractor's expense for both labor and materials.

1.02 STORAGE

A. The Contractor shall store his equipment and materials at the jobsite in accordance with the manufacturer's recommendations and as directed by the Owner. He shall not store unnecessary materials or equipment on the jobsite and shall prevent any structure from being overloaded and endangering the safety of his personnel. The Contractor shall enforce the instructions of the Owner and the Owner regarding the posting of regulatory signs for loadings on structures, fire safety, and smoking areas.

1.03 HANDLING AND MAINTENANCE

A. The manufacturer's storage instructions shall be carefully followed and any deviations shall be approved by the manufacturer in writing with a copy to the Owner. Equipment with moving parts shall be rotated per the manufacturer's recommendations while in storage and during the period between installation and acceptance.

B. All equipment shall be stored fully lubricated unless otherwise instructed by the manufacturer. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment at the time of acceptance.

PART 2 -- PRODUCTS - (Not Used)

PART 3 -- EXECUTION - (Not Used)

- END OF SECTION -

SECTION 01700

PROJECT CLOSEOUT

PART 1 -- GENERAL

1.01 FINAL CLEANUP

A. This section refers specifically to the completion and closeout of individual work orders.

B. The Contractor shall promptly remove from the vicinity of the completed Work, all rubbish, unused materials, concrete forms, construction equipment, temporary structures and facilities, construction signs, tools, scaffolding, materials, supplies and equipment which may have been used in the performance of the work. The Contractor shall broom clean paved surfaces and rake clean other surfaces of grounds. Final acceptance of the Work by the Owner will be withheld until the Contractor has satisfactorily complied with the foregoing requirements for final cleanup of the project site.

C. The Contractor shall thoroughly clean all materials, equipment and structures; all marred surfaces shall be touched up to match adjacent surfaces.

D. The Contractor shall remove spatter, grease, stains, fingerprints, dirt, dust, labels, tags, packing materials and other foreign items or substances from interior and exterior surfaces, equipment, signs and lettering.

E. The Contractor shall remove paint, clean and restore all equipment and material nameplates, labels and other identification markings.

F. The Contractor shall maintain cleaning until project, or portion thereof, is accepted by the Owner.

F. The Contractor shall:

1. Use only cleaning materials recommended by manufacturer of surface to be cleaned.

2. Use each type of cleaning material on only those surfaces recommended by the cleaning material manufacturer.

3. Use only materials which will not create hazards to health or property.

1.02 CLOSEOUT TIMETABLE

A. The Contractor shall establish dates for testing, acceptance periods, and on-site instructional periods (as required under the Contract). Such dates shall be established not less than one week prior to beginning any of the foregoing items, to allow the Owner and their authorized representatives sufficient time to schedule attendance at such activities.

1.03 FINAL SUBMITTALS

A. Before the final acceptance of the project, the Contractor shall submit to the Owner (or to the Owner if indicated) certain records, certifications, etc., which are specified elsewhere in the Contract Documents. Missing, incomplete or unacceptable items, as determined by the Owner, shall constitute grounds for withholding final payment to the Contractor. A partial list of such items appears below, but is shall be the Contractor's responsibility to submit any other items which are required in the Contract Documents:

1. Written Test results of project components.

2. Written guarantees, where required.

3. Certificates of inspection and acceptance by local governing agencies having jurisdiction.

4. Video tapes and logs of all lines televised.

5. Pre-construction photos (5" x 7").

6. Releases from all parties who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.

1.04 PUNCH LISTS

A. Final cleaning shall be scheduled upon completion of the project.

B. The Owner will make his final inspection whenever the Contractor has notified the Owner that the work is ready for the inspection. Any work not found acceptable and requiring cleaning, repair and/or replacement will be noted on the "Punch" list. Work that has been inspected and accepted by the Owner shall be maintained by the Contractor, until final acceptance of the entire project.

C. Whenever the Contractor has completed the items on the punch list, he shall again notify the Owner that it is ready for final inspection. This procedure will continue until the entire project is accepted by the Owner. The "Final Payment" will not be processed until the entire project has been accepted by the Owner and all of the requirements in previous Article 1.03 "Final Submittals" have been satisfied.

1.07 TOUCH-UP AND REPAIR

A. The Contractor shall touch-up and repair damage to all existing facilities and surfaces. If in the opinion of the Owner the touch-up work is not satisfactory, the Contractor shall repeat the item.

1.08 MAINTENANCE AND GUARANTEE

A. The Contractor shall comply with all maintenance and guarantee requirements of the Contract Documents.

B. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required repair work, and any repair or resurfacing constructed by the Contractor which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work unless the Contractor shall have obtained a statement in writing from the affected private Owner or public agency releasing the Owner from further responsibility in connection with such repair or resurfacing.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION (Not Used)

- END OF SECTION -

SECTION 02110

CLEARING AND GRUBBING

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. Clear and grub the areas to be occupied by the proposed storm water transmission system including all areas to be excavated, filled, paved, or planted as shown on the Drawings, and remove and/or dispose of material and debris resulting from these operations as specified herein.

B. Unless otherwise shown on the Drawings, clearing and grubbing shall be done within the rights-of-way.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION

3.01 CLEARING

A. The surface of the ground, for the area to be cleared and grubbed shall be completely cleared of all timber, brush, stumps, roots, grass, weeds, rubbish and all other objectionable obstructions resting on or protruding through the surface of the ground. However, those trees which are designated by the Owner shall be preserved as hereinafter specified. Clearing operations shall be conducted so as to prevent damage to existing facilities.

B. For selective clearing, the Owner shall select and mark, or otherwise designate, the trees or other vegetation to be removed.

3.02 GRUBBING

A. Grubbing shall consist of the complete removal of all stumps, roots larger than 1.5 inches in diameter, matted roots, brush, timber, logs and any other organic or metallic debris resting on, under or protruding through the surface of the ground to a depth of 18 inches below the subgrade. All depressions excavated below the original ground surface for or by the removal of such objects, shall be refilled with suitable materials and compacted to a density conforming to the surrounding ground surface.

3.03 DISPOSAL OF CLEARED AND GRUBBED MATERIAL

A. The Contractor shall dispose of all material and debris from the clearing and grubbing operations by delivering to an appropriately permitted landfill.

B. Deep burial and burning of any material shall not be permitted. In no case shall debris from the clearing and grubbing operations remain on site. The cost of disposal of material

(including hauling) shall be considered a subsidiary obligation of the Contractor, the cost of which shall be included in the Contract price.

3.04 PROTECTION OF ADJACENT AREAS

A. The Contractor shall protect areas shown on the Drawings or designated by the Owner to remain protected from damage by construction operations by erecting suitable barriers or other acceptable means. Areas outside the limits of construction as shown on the Drawings shall be protected and no equipment or materials shall be stored or allowed to damage these areas.

- END OF SECTION -

SECTION 02222

EXCAVATION AND BACKFILL FOR UTILITIES

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. Excavate, grade and backfill as required for the site underground piping systems, and electrical and instrumentation duct banks and conduit as shown in the Contract Documents and specified herein.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 15000 - Piping, General

1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Codes: All codes, as referenced herein, are specified in Section 01090 - Reference Standards.

B. Commercial Standards:

ASTM D422	Method for Particle-Size Analysis of Soils.
ASTM D698	Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5-lb (2.49-kg) Rammer and 12-in (304.8-mm) Drop.
ASTM D1556	Test Method for Density of Soil in Place by the Sand-Cone Method.
ASTM D1557	Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb (4.54-kg) Rammer and 18-in (457-mm) Drop.
ASTM D2419	Test Method for Sand Equivalent Value of Soils and Fine Aggregate.
ASTM D2922	Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

1.04 SUBMITTALS

A. The Contractor shall submit information and samples to the Engineer for review as specified herein in accordance with the Section 01300 - Submittals.

B. The Contractor shall submit to the Engineer his proposed methods of handling trench water and the locations at which the water will be disposed of. Methods shall be acceptable to the Engineer before starting the excavation.

C. The Contractor shall notify the Engineer of the off-site sources of bedding and backfill materials, and submit to the Engineer a representative sample weighing approximately 25 lbs.

D. Drawings of any proposed sheeting system and design computations shall be submitted to the Engineer; however, the review of these Drawings shall in no way relieve the Contractor of the responsibility to provide a safe and satisfactory sheeting and shoring system. Sheeting and shoring shall be designed by the Contractor, and the proposed design shall be sealed by a Professional Engineer registered in the State of Florida. If the Engineer is of the opinion that at any point sufficient or proper supports have not been provided, he may order additional supports put in at the Contractor's expense.

E. Dewatering

1. The Contractor shall submit his proposed methods of handling trench water and the locations at which the water will be disposed of. Methods shall be acceptable to the Engineer before starting and excavating.

F. Bedding and Backfill Materials

1. The Contractor shall notify the Engineer of the off-site sources of bedding and backfill materials and submit to the Engineer a representative sample weighing approximately 25 lbs.

G. Approvals Required

1. Prior to any earthwork, submit samples of the existing stripped soils and the proposed fill material to Engineer for analysis.

2. Do not place any footing reinforcing until the excavations have been tested for compaction.

3. Obtain necessary permits for dewatering.

1.05 QUALITY CONTROL

A. An independent testing laboratory will be retained by the Owner to provide appropriate testing as described in Section 01400 - Quality Control. The Contractor shall schedule his Work so as to permit a reasonable time for testing before placing succeeding lifts and shall keep the laboratory informed of his progress.

1.06 GROUNDWATER

A. The Contractor shall be responsible for anticipating groundwater conditions and shall provide positive control measures as required. Such measures shall ensure stability of excavations, groundwater pressure control, prevention of tanks, pipes, and other structures from being lifted by hydrostatic pressures, and avoiding the disturbance of subgrade bearing materials.

B. All dewatering work performed under this Contract shall be done in conformance with the subject to the limitations and regulations of the SFWMD.

1.07 TRENCH SAFETY ACT COMPLIANCE

A. The Contractor by signing and executing the contract is, in writing, assuring that he will perform any trench excavation in accordance with the Florida Trench Safety Act, Section 553.60 et. seq.. The Contractor further identified the separate item(s) of cost of compliance with the applicable trench safety standards as well as the method of compliance as noted in the Contract front-end documents.

The Contractor acknowledges that this cost is included in the applicable items of the Proposal and Contract and in the Base Bid Price.

B. The Contractor is, and the Owner and Engineer are not, responsible to review or assess the Contractor's safety precautions, programs or costs, or the means, methods, techniques or technique adequacy, reasonableness of cost, sequences or procedures of any safety precaution, program or cost, including but not limited to, compliance with any and all requirements of Florida Statute Section 553.60 et. seq. cited as the "Trench Safety Act". The Contractor is, and the Owner and Engineer are not, responsible to determine if any safety or safety related standards apply to the project, including but not limited to, the "Trench Safety Act".

1.08 PROTECTION OF PROPERTY AND STRUCTURES

A. The Contractor shall, at his own expense, sustain in place and protect from direct or indirect injury, all pipes, poles, conduits, walls, buildings, and all other structures, utilities, and property in the vicinity of his work. The Contractor shall take all risks attending the presence or proximity of pipes, poles, conduits, walls, buildings, and all other structures, utilities, and property in the vicinity of his work. He shall be responsible for all damage, and assume all expenses, for direct or indirect injury and damage, caused by his work, to any such pipe, structures, etc., or to any person or property, by reason of injury to them, whether or not such structures, etc., are shown on the Drawings.

B. Barriers shall be placed at each end of all excavations and at such places as may be necessary along excavations to warn all pedestrian and vehicular traffic of such excavations. Barricades with flashing lights shall also be placed along excavation from sunset each day to sunrise of the next day until such excavation is entirely refilled, compacted, and paved. All excavations shall be barricaded where required to meet OSHA, local and Federal Code requirements, in such a manner to prevent persons from falling or walking into any excavation.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Materials shall be furnished as required from on-site excavations or from acceptable off-site sources as required. The Contractor shall notify the Engineer of the sources of each material at least ten calendar days prior to the anticipated use of the materials.

B. In general, clean sandy excavated materials, that is free from organics, clay and construction debris, can be used as pipe bedding when construction is in a dry condition and when the bedding is not sided by muck. Pipe bedding material shall be able to pass through a 3/4-inch sieve. Separation of suitable material for pipe bedding from other material shall be made during the excavation.

C. Screened gravel shall be used for small diameter (less than 24") and plastic pipe bedding when either the trench is within the water table or when the bedding is sided by muck or muck-like material. Screened gravel shall consist of hard, durable particles of proper size and graduation, and shall be free from organic material, wood, trash, sand, loam, clay, excess fines, and other deleterious materials. The gravel shall be graded within the following limits:

Sieve Size	Percent Finer by Weight
1 inch	100
3/4 inch	99
1/2 inch	65
No. 4	2

D. Crushed stone shall be used for bedding of 24-inch and larger diameter pipe as detailed and at other locations indicated on the Drawings. Crushed stone shall be used when either side of the trench is within the water table or is sided by muck or muck-like materials. Crushed stone shall consist of hard, durable, subangular particles of proper size and graduation, and shall be free from organic material, wood, trash, sand loam, clay, excess fines, and other deleterious materials. The stone shall be graded within the following limits:

Sieve Size	Percent Finer by Weight
5/8 inch	100
1/2 inch	40 - 100
3/8 inch	15 - 45
No. 10	0 -5

E. Sand for bedding polyvinyl chloride pipe shall be a dry screened sand. Sand shall be graded sand with 100 percent passing a 3/8 inch sieve and not more than 5 percent passing a No. 200 sieve.

F. In general, clean sandy excavated material, that is free from organics clay and construction debris can be used for backfill material. All material to be used as selected backfill shall be able to pass a 3/4-inch sieve. If, in the Engineer's opinion, excavation material is unsuitable for backfill purposes, imported material having a sand equivalent value of not less than 20 percent shall be used for this portion of the trench backfill. All backfill material (placed above select backfill) shall be able to pass through a 6-inch ring. If suitable backfill is not available from the excavations, it shall be obtained from off site sources.

PART 3 -- EXECUTION

3.01 EXCAVATION

A. The Contractor shall perform all excavation of every description and of whatever substance encountered, to the dimensions, grades and depths shown on the Drawings, or as directed. All excavations shall be made by open cut. All existing utilities such as pipes, poles and structures shall be carefully located, supported and protected from injury; in case of damage, they shall be restored at the Contractor's expense.

B. Pipe trenches for piping shall be excavated to a width within the limits of the top of the pipe and the trench bottom so as to provide a clearance on each side of the pipe barrel, measured to the face of the excavation, or sheeting if used, of 8 inches to 12 inches. Where the pipe size exceeds 12 inches, the clearance shall be from 12 inches to 18 inches. All pipe trenches shall be excavated to a level where suitable material is reached, a minimum of 8 inches below the excavated depth, that will allow for a minimum of 36" of covering unless otherwise indicated on the Drawings. Excavation depths in other types of materials and conditions shall be made as hereinafter specified.

C. In areas where trench widths are not limited by right-of-way and/or easement widths, property line restrictions, existing adjacent improvements, including pavements, structures and other utilities, and maintenance of traffic, the trench sides may be sloped to a stable angle of repose of the excavated material but only from a point one foot above the crown of the pipe. A substantially and safely constructed movable shield, "box" or "mule" may be used in place of sheeting when the trench is opened immediately ahead of the shield and closed immediately behind the shield as pipe laying proceeds inside the shield.

D. Ladders or steps shall be provided for and used by workmen to enter and leave trenches.

E. Excavation for appurtenances shall be sufficient to provide a clearance between their outer surfaces and the face of the excavation or sheeting, if used, of not less than 12 inches.

F. Excavated unsuitable material shall be removed from the site and disposed of by the Contractor. Materials removed from the trenches shall be stored and in such a manner that will not interfere unduly with plant operations, traffic on public roadways and sidewalks and shall not be placed on private property. In congested areas, such materials as cannot be stored adjacent to the trench or used immediately as backfill shall be removed to other convenient places of storage acceptable to the Owner at the Contractor's expense.

G. Excavated material that is suitable for use as backfill shall be used in areas where sufficient material is not available from the excavation. All excess excavated suitable material shall be the property of the Owner and shall be delivered to a designated location within a ten mile one way travel distance from the site.

3.02 SHEETING AND BRACING

A. The Contractor shall furnish, place and maintain sheeting and bracing to support sides of the excavation as necessary to provide safe working conditions in accordance with OSHA requirements, and to protect pipes, structures and other Work from possible damage. Where wood sheeting or certain designs of steel sheeting are used, the sheeting shall be cut off at a level of 2 feet above the top of the installed pipe and that portion below the level shall be left in place. If interlocking steel sheeting is used, it may be removed providing removal can be accomplished without disturbing the bedding, pipe or alignment of the pipe.

Any damage to the pipe bedding, pipe or alignment of the constructed utility caused by the removal of sheeting shall be cause for rejection of the affected portion of the work. The Owner may permit sheeting to be left in place at the request and expense of the Contractor.

B. If the Engineer is of the opinion that at any point sufficient or proper supports, have not been provided, he may order additional supports put in at the Contractor's expense. The Contractor shall be responsible for the adequacy of all sheeting used and for all damage resulting from sheeting and bracing failure or from placing, maintaining and removing it.

3.03 REMOVAL OF WATER

A. It is a basic requirement of these Specifications that excavations shall be free from water before pipe or structures are installed.

B. The Contractor shall provide pumps, and other appurtenant equipment necessary to remove and maintain water at such a level as to permit construction in a dry condition. The Contractor shall continue dewatering operations until backfilling has progressed to a sufficient depth over the pipe to prevent flotation or movement of the pipe in the trench or so that it is above the water table. If at any point during the dewatering operation it is determined that fine material is being removed from the excavation sidewalls, the dewatering operation shall be stopped if acceptable to the Engineer. If any of the subgrade or underlying material is disturbed by movement of groundwater, surface water, or any other reason, it shall be replaced at the Contractor's expense with crushed stone or gravel.

C. The Contractor shall use dewatering systems that include automatic starting devices, and standby pumps that will ensure continuous dewatering in the event of an outage of one or more pumps.

D. Water from the trenches and excavation shall be disposed of in such a manner as will not cause injury to public health, to public or private property, to the Work completed or in progress, to the surface of the streets, cause any interference with the use of the same by the public, or cause pollution of any waterway or stream. The Contractor shall submit his proposed methods of handling trench water and locations at which the water will be disposed of to the Engineer for review and shall receive acceptance before starting the excavation. Disposal to any surface water body will require silt screens to prevent any degration in the water body.

3.04 TRENCH STABILIZATION

A. No claim for extras, or additional payment will be considered for cost incurred in the stabilization of trench bottoms which are rendered soft or unstable as a result of construction methods, such as improper or inadequate sheeting, dewatering or other causes. In no event shall pipe be installed when such conditions exist and the Contractor shall correct such conditions so as to provide proper bedding or foundations for the proposed installation at no additional cost to the Owner before placing the pipe or structures.

3.05 PIPE BEDDING

A. Pipe trenches shall be excavated as described in Article 3.01. The resulting excavation shall be backfilled with acceptable pipe bedding material, up to the level of the centerline of the proposed pipe barrel. This backfill shall be tamped and compacted to provide a proper

bedding for the pipe and shall then be shaped to receive the pipe. Bedding shall be provided under the branch of all fittings to furnish adequate support and bearing under the fitting.

B. Any excavation below the levels required for installation of the pipe bedding shall be backfilled with acceptable bedding material, tamped, compacted and shaped to provide proper support for the proposed pipe, at the Contractor's expense.

3.06 BACKFILL

A. Pipeline trenches shall be backfilled to a level 12 inches above the top of the pipe with select backfill obtained from the excavation. Such material shall be placed in 6-inch layers, each compacted to the densities specified in Article 3.07. Only hand operated mechanical compacting equipment shall be used within six inches of the installed pipe.

B. After the initial portion of backfill has been placed as specified above, and after all excess water has completely drained from the trench, backfilling of the remainder of the trench may proceed. The remainder of the backfill shall be selected material obtained from the excavation and shall be placed in horizontal layers, the depth of which shall not exceed the ability of the compaction equipment employed, and in no event shall exceed a depth of 12 inches. Each layer shall be moistened, tamped, puddled, rolled or compacted to the densities specified in Article 3.07.

C. Any excavation below the levels required for the proper construction of manholes or vaults shall be filled with Class B Concrete. The use of earth, rock, sand or other materials for this purpose will not be permitted.

3.07 COMPACTION AND DENSITIES

A. Compaction of backfill shall be 98 percent of the maximum density where the trench is located under structures or paved areas, and 95 percent of the maximum density elsewhere. More thorough compaction may be required when Work is performed in other regulatory agencies jurisdictions, such as the DOT. Methods of control and testing of backfill construction are:

1. Maximum density of the material in trenches shall be determined by ASTM D1557.

2. Field density of the backfill material in place shall be determined by ASTM D1556 or D2922.

B. Laboratory and field density tests, which in the opinion of the Engineer are necessary to establish compliance with the compaction requirements of these Specifications, shall be ordered by the Engineer. The Contractor shall coordinate and cooperate with the testing laboratory. The testing program will be implemented by the Engineer establishing depths and locations of tests. Modifications to the program will be made as job conditions change.

C. Trench backfill which does not comply with the specified densities, as indicated by such tests, shall be reworked and recompacted until the required compaction is secured, at no additional cost to the Owner. The costs for retesting such Work shall be paid for by the Contractor.

3.08 ADDITIONAL EXCAVATION AND BACKFILL

A. Where organic material, such as roots, muck, or other vegetable matter, or other material which, in the opinion of the Engineer, will result in unsatisfactory foundation conditions, is encountered below the level of the proposed pipe bedding material, it shall be removed to a depth of two feet below the outside bottom of the pipe or to a greater depths as directed by the Engineer and removed from the site. Sheeting shall be installed if necessary to maintain pipe trenches within the limits identified by the Engineer. The resulting excavation shall be backfilled with suitable backfill material, placed in 12-inch layers, tamped and compacted up to the level of the bottom of the proposed pipe bedding material. Sufficient compaction of this material shall be performed to protect the proposed pipe against settlement. Construction shall then proceed in accordance with the provisions of Article 3.05 "Pipe Bedding".

B. Additional excavation (more than two feet below the pipe) as indicated on the trench detail shall be performed only when ordered by the Engineer. Where organic or other material is encountered in the excavation, the Contractor shall bring the condition to the attention of the Engineer and obtain his determination as to whether or not the material will require removal, prior to preparing the pipe bedding. The excavation of material up to a depth of two feet below the outside bottom incidental items of construction and the Work shall be done at the Contractor's expense.

- END OF SECTION -

SECTION 02500

SURFACE RESTORATION

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. Items specified in this Section include repairs to landscaped and grassed areas that may be damaged by Contractor activities and relocation of existing trees.

B. Australian Pines, Brazillian Pepper, and other exotic species (as identified by Owner) shall not be replaced.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Asphaltic Concrete Pavement.

B. Pavement Marking and Traffic Signs.

C. Portland Cement Concrete Paving.

1.03 SUBMITTALS

A. The Contractor shall submit submittals for review in accordance with the Section entitled "Submittals".

1.04 DEFINITIONS

A. The phrase "DOT Specifications" shall refer to the Florida Department of Transportation Standard Specifications for Road and Bridge Construction. The DOT Specifications are referred to herein and are hereby made a part of this Contract to the extent of such references, and shall be as binding upon the Contract as though reproduced herein in their entirety.

1.05 PROTECTION OF EXISTING IMPROVEMENTS

A. The Contractor shall be responsible for the protection of all pavement and other improvements within the work area. All damage to such improvements, as a result of the Contractor's operations, shall be repaired by the Contractor at his expense, as specified hereinafter.

1.06 GUARANTEE

A. The Contractor shall guarantee all trees, ground cover or shrubs planted or replanted under this Contract for a period of one year beyond acceptance of the project. In the event that any new tree, plant or shrub dies within the guarantee period, the Contractor shall be responsible for replacement in kind. In the event that a transplanted (reused) tree dies within the guarantee period, the Contractor shall be responsible for replacement in kind,

except that the maximum height of any new tree shall be eight feet as measured from the ground surface, once planted, to the top of the tree.

PART 2 -- PRODUCTS

2.01 SOD

A. Sod shall be replaced to the original or better than original conditions, or as specified by the Owner.

2.02 REPLACEMENT TREES, GROUND COVER AND SHRUBS

A. Replacement trees, ground cover and shrubs shall be of the same type and size and be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall have healthy, well developed root systems and shall be free of disease and insect pests, eggs or larvae.

2.03 MULCH

A. Mulch shall be windproof shredded eucalyptus, clean, fresh, free of branches and other foreign matter. Mulch shall be used around all shrubs, ground covers and tree trunks, and placed to a minimum depth of 2 inches.

PART 3 -- EXECUTION

3.01 GRADING AND SODDING

A. The Contractor shall regrade the work areas disturbed by his construction activities to the existing grades prior to commencement of construction.

B. Sod shall be placed on all grassed areas disturbed by construction activities. Sodding shall be in accordance with Section 02934 Sodding of these Specifications.

C. Maintenance: Sufficient watering shall be done by the Contractor to maintain adequate moisture for optimum development of the sodded areas. Sodded areas shall receive no less than 1.5 inches of water per week.

D. Repairs to Lawn Areas Disturbed by Contractor's Operations: Lawn areas planted under this Contract and lawn areas outside the designated areas damaged by Contractor's operations shall be repaired at once by proper sod bed preparation, fertilization and resodding, in accordance with these specifications.

3.02 TREES, GROUND COVER AND SHRUBS

A. Excavation and Plant Holes : Plant hole excavations shall be roughly cylindrical in shape, with the side approximately vertical. Plants shall be centered in the hole. Bottoms of the holes shall be loosened at least six inches deeper than the required depth of excavation.

B. Holes for balled and burlapped plants shall be large enough to allow at least eight inches of backfill around the earth ball. For root balls over 18 inches in diameter, this dimension shall

be increased to 12 inches. Where excess material has been excavated from the plant hole, the excavated material shall be disposed of as and where directed by the Engineer.

C. Setting of Plants: When lowered into the hole, the plant shall rest on a prepared hole bottom such that the roots are level with, or slightly above, the level of their previous growth and so oriented such as to present the best appearance. The Contractor, when setting plants in holes, shall make allowances for any anticipated settling of plants.

D. Palms of the sabal species may be set deeper than the depth of their original growth, provided that the specified clear trunk height is attained.

E. The backfill shall be made with planting mixture as specified herein before and shall be firmly rodded and watered-in, so that no air pockets remain. The quantity of water applied immediately upon planting shall be sufficient to thoroughly moisten all of the backfilled earth. Plants shall be kept in a moistened condition for the duration of the Contract.

F. Staking and Guying: Plants shall be staked in accordance with the following provisions:

1. Small Trees: For trees and shrubs of less than one-inch caliper, the size of stakes and the method of tying shall be such as to rigidly support the staked plant against damage caused by wind action or other effects. Trees larger than one inch and smaller than one and one-half inch caliper shall be staked with a two-inch stake, set at least 24 inches in the ground and extending to the crown of the plant. The plant shall be firmly fastened to the stake with two strands of 14 gauge soft wire, enclosed in rubber hose, or other approved covering. The wire shall then be nailed or stapled to the stake to prevent slippage.

2. Medium Trees: All trees, other than palm trees, larger than one and one-half inch caliper and smaller than two and one-half inch caliper shall be staked with two or more, two-inch by two-inch stakes, eight feet long, set two feet in the ground. The tree shall be midway between the stakes and held firmly in place by two strands of 12-gauge wire, applied as specified above for single stakes. The wires shall be tightened and kept tight by twisting.

3. Large Trees: All trees, other than palm trees, larger than two and one-half inch caliper, shall be guyed from at least three points with double strands of 12-gauge wire. Guy wires shall be anchored' to two-inch by four-inch stakes, 24 inches long, driven into the ground at least two feet and sufficient that the top of the stake is at least three inches below the finished ground level. In firm rock soils, Number 4 steel reinforcing rods or one-half inch pipe may be used instead of stakes. Tie wires shall be securely fastened to the tree by means of a collar of rubber hose, or other approved material. Guy wires shall be tightened and kept tight by twisting.

4. Palm Trees: Palm trees shall be braced with three or more two-inch by four-inch wood braces, toenailed to cleats which are securely banded at two points to the palm, at a point at least six feet above the ground. The trunk shall be padded with five layers of burlap under the cleats. Braces shall be approximately equidistantly spaced and secured underground with two-inch by four-inch by 24-inch stake pads. In firm rock soils, Number 4 steel reinforcing rods or one-half inch pipe is acceptable.

G. Pruning: All broken or damaged roots shall be cut off smoothly, and the tops of all trees shall be pruned in a manner complying with standard horticultural practice. At the time pruning is completed, all remaining wood shall be alive. All cut surfaces of one inch or more in diameter, above the ground, shall be treated with an approved commercial tree paint.

H. Maintenance: Maintenance shall begin immediately after each plant is planted and shall continue until all work under this Contract has been completed and accepted by the Owner. Plants shall be watered, mulched, weeded, pruned, sprayed, fertilized, cultivated and otherwise maintained and protected. Settled plants shall be reset to proper grade position, planting saucer restored and dead material removed. Guys shall be tightened and repaired.

I. Defective work shall be corrected as soon as possible after it becomes apparent. Upon completion of planting, the Contractor shall remove excess soil and debris, and repair any damage to structures, etc., resulting from planting operations.

- END OF SECTION -

SECTION 02510

ASPHALTIC CONCRETE PAVEMENT

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. Construct asphaltic concrete pavement in accordance with the lines, grades and typical section as indicated on the Drawings, specified herein and as required for a complete installation.

1.02 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. DOT Specifications: The phrase "DOT Section", shall refer to the Section specified in Florida Department of Transportation Standard Specifications for Road and Bridge Construction. The DOT Specifications, are referred to herein and are hereby made a part of this Contract to the extent of such references, and shall be as binding upon the Contract as though reproduced herein in their entirety.

DOT 160	Stabilizing
DOT 200	Limerock Base
DOT 300	Prime and Tack Coats for Base Courses
DOT 320	Hot Bituminous Mixtures - Plant Methods and Equipment
DOT 330	Hot Bituminous Mixtures - General Construction Requirements
DOT 331	Type S Asphaltic Concrete
DOT 337	Asphaltic Concrete Friction Courses
DOT 902	Fine Aggregate
DOT 911	Limerock Material for Base and Stabilized Base
DOT 916	Bituminous Materials

1.03 SUBMITTALS

A. The Contractor shall submit his proposed formula for the asphaltic concrete paving for review in accordance with Section 01300 - Submittals.

1.04 QUALITY CONTROL

A. The phrase "DOT Specifications" shall refer to the Florida Department of Transportation Standard Specifications for Road and Bridge Construction. The DOT Specifications, are referred to herein and are hereby made a part of this Contract to the extent of such

references, and shall be as binding upon the Contract as through reproduced herein in their entirety.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Limerock Base

1. The limerock base shall consist of either one or two courses of Miami or Ocala limerock or crushed coquina in accordance with Section 200 and 911 of the DOT Specifications.

B. Prime Coat

1. The material used for the prime coat shall be cut-back Asphalt Grade RC-70 conforming to Sections 300 and 916 of the DOT Specifications for prime to be used on Miami Oolite formation limerock.

C. Tack Coat

1. The material used for the tack coat shall be Emulsified Asphalt Grade RS-2 conforming to Sections 300 and 916 of the DOT Specifications. The complete site shall receive a final tack coat to provide a uniform finish for all new and existing paving at the plant site.

D. Asphaltic Concrete

1. The materials and construction of the asphaltic concrete patch and surface courses shall be Type S-I Asphaltic Concrete conforming to Sections 330, 331 and 916 of the DOT Specifications.

PART 3 -- EXECUTION

3.01 INSTALLATION

A. Roadway subgrades shall be stabilized to the minimum depth shown on the Drawings to a Limerock Bearing Ratio of not less than 40. Stabilizing shall be Type B as defined in Section 160 of the DOT Specifications. Stabilization may require the addition and thorough mixing in of crushed limerock, course limerock screenings, or any other stabilizing material acceptable to the Owner. The stabilizing material shall be applied in such quantity that, after mixing and blending, the subgrade will have a LBR of not less than 40. Stabilizing material shall be mixed or blended in the subgrade material by plowing, scarifying, disking, harrowing, blading and mixing with rotary tillers until the mixed materials are of uniform bearing value throughout the width and depth of the layer being processed.

B. At least three density determinations shall be made on each day's final compaction operations on each course and the density determinations shall be made at more frequent intervals if deemed necessary by the Owner.

C. The limerock base shall be constructed in accordance with Section 200 of the DOT Specifications, to the thickness and width indicated on the Drawings.

D. After spreading of the base material is completed, the entire surface shall be scarified and shaped so as to produce the exact grade and cross section after compaction. For double course base, this scarifying shall extend a depth sufficient to penetrate slightly the surface of the first course. The maximum depth of each lift shall be 8-inches.

E. When the material does not have the proper moisture content to insure the required density, wetting or drying shall be required. If the material is deficient in moisture, water will be added and uniformly mixed in by disking the base course to its full depth. If the material contains an excess of moisture, it shall be allowed to dry before being compacted. As soon as proper conditions of moisture are attained, the material shall be compacted to an average density not less than 98 percent maximum density as determined in more than one course, the density shall be obtained in each lift of the base.

F. During final compacting operations, if blading of any areas is necessary to obtain the true grade and cross section, the compacting operations for such areas shall be completed prior to making the density determination on the finished base.

G. Unless otherwise directed by the Owner, the surface shall be "hard-planed" with a blade grader immediately prior to the application of the prime coat to remove the thin glaze or cemented surface and to allow free penetration of the prime material. The materials planed from the base shall be removed from the base area.

H. If cracks or checks appear in the base, either before or after priming, which in the opinion of the Owner, would impair the structural efficiency of the base course, the Contractor shall remove such cracks or checks by rescarifying, reshaping, adding base material where necessary and recompacting, at no additional cost to the Owner.

I. If at any time the subgrade material shall become mixed with the base course material, the Contractor shall, without additional compensation, dig out and remove the mixture, reshape and compact the subgrade and replace the materials removed with clean base material, which shall be shaped and compacted as specified above.

J. The prime coat shall be applied at a rate of 0.15 gallons per square yard and the Work performed in accordance with Section 300 of the DOT Specifications.

K. The tack coat shall be applied at a rate between 0.02 and 0.10 gallons per square yard and the Work performed in accordance with Section 300 of the DOT Specifications.

L. The spreading, compacting and jointing the wearing surface shall be in accordance with Sections 330 and 331 of the DOT Specifications to the thickness indicated on the Drawings.

3.02 PAVEMENT REPAIR

A. All damage to pavement as a result of Work under this Contract shall be repaired in a manner satisfactory to the Owner and at no additional cost to the Owner. The repair shall

include the preparation of the subgrade, the placing and compacting of the limerock base, the priming of the base, the placing and maintaining of the surface treatment, all as specified herein.

B. The width of all repairs shall extend at least 12 inches beyond the limit of the damage. The edge of the pavement to be left in place shall be cut to a true edge with a saw or other acceptable method so as to provide a clean edge to abut the repair. The line of the repair shall be reasonably uniform with no unnecessary irregularities.

- END OF SECTION -

SECTION 02574

PAVEMENT REMOVAL AND REPLACEMENT

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall cut, remove, protect, and replace existing pavements of the various types encountered including, roadways, driveways, sidewalks, curbs, and combination curb and gutter.

B. Protection of Existing Improvements: The Contractor shall be responsible for the protection of all pavements, sidewalks, and other improvements within the work area. All damage to such improvements, as a result of the Contractor's operations, beyond the limits of the Work of pavement replacement as described herein, shall be repaired by the Contractor at his expense.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Materials including limerock, bituminous prime and tack coat, and asphaltic concrete for the above Work shall meet the requirements established therefore by the FDOT Specifications.

1. Limerock shall be Miami or Ocala Limerock, or crushed coquina.

2. Bituminous prime coat material shall be cutback asphalt Grade RC-70.

3. Bituminous tack coat material shall be emulsified asphalt Grade RS-2.

4. Asphaltic concrete shall be Type S-I or S-III, determined by the engineer.

PART 3 -- EXECUTION

3.01 PREPARATION

A. Pedestrian or school crossings: Where the work crosses or interferes with school or pedestrian crossings, extreme care shall be taken by the Contractor to ensure the safety of school children or other pedestrians.

3.02 PERFORMANCE

A. Removals

1. Pavement Removal: Where existing pavement is to be removed, the surfacing shall be mechanical saw cut prior to trench excavation, leaving a uniform and straight edge, with minimum disturbance to the remaining adjacent surfacing. The width of cut for this phase of existing pavement removal shall be minimal.

2. Sidewalk, Drive, and, Curb Removal: Concrete sidewalks, curbs, combination curb and gutter, walks, drive ribbons, or driveways shall be removed by initially sawing the structure with a suitable power saw as specified above for pavement. When a formed joint in the concrete exists within three (3) feet of the proposed saw cut and parallels the proposed saw cut, the removal line shall be extended to the formed joint. After sawing, the material shall be removed.

B. Restorations

1. General: Street or roadway pavement cut and removed in connection with trench excavation shall be replaced or restored in equal or better condition than the original and as shown on the Drawings. All restorations shall be a complete overlay of the road surface.

2. Pavement Restoration - Asphalt:

a. Limerock base course shall be compacted for its full thickness to not less than 98 percent of maximum density as determined by AASHTO T-180.

b. Construction methods and equipment shall generally meet the requirements therefore as established in the FDOT Specifications, but shall be modified to meet the relatively narrow strip construction conditions. Any such modifications shall be approved by the Owner prior to their use.

c. Joints with existing surface and base shall be straight and neat. If it is necessary to obtain a straight net joint, the Contractor shall cut out sufficient existing material and replace it with new material.

d. The upper surface of the completed base course shall be compacted to an elevation to permit the full depth of the surface course to be at the pavement surface. The completed surface shall match the line and grade of the existing surface. When pavement is removed to the edge of the roadway, the replaced base course shall extend not less than six (6) inches beyond the edge of the surfacing constructed without deviating from the grade.

3. Driveway Restoration - Asphalt: Driveway pavement with limerock base cut and removed in connection with trench excavation shall be replaced or restored as specified above for street or roadway pavement, with the exception that the new limerock base course shall equal the existing base course in thickness, except

that in no case shall new driveway base course be less than six (6) inches in thickness. Muck or unsuitable material found under existing driveway construction will not be removed and replaced.

4. Concrete, Sidewalk, Walkway, Driveway Ribbon, and Curb Restoration:

   a. Concrete sidewalks, walkways, driveways, driveway ribbons, and curbs required to be removed for the installation of facilities under this Contract shall be restored. Class B concrete shall be used in all cases.

   b. Replaced portions of these items shall conform to the lines, grades, and cross sections of the removed portions. Concrete sidewalks and walkways shall be of 6-inch thickness; concrete driveways and driveway ribbons shall be of 6-inch thickness. Replaced concrete curb and/or gutter shall joint neatly to the remaining section.

5. Pavement Restoration - Concrete: Rigid pavement shall be replaced in kind with Class B concrete, using high early strength cement.

- END OF SECTION -

SECTION 02580

PAVEMENT MARKING AND TRAFFIC SIGNS

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. This section consists of striping pavement and traffic signs that may be damaged by Contractor activities as indicated on the Drawings, specified herein and as required for a complete installation.

1.02 RELATED ITEMS SPECIFIED ELSEWHERE

A. Asphaltic concrete pavement.

1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. DOT Specifications: The phrase "DOT Section" shall refer to the Section specified in Florida Department of Transportation Standard Specifications for Road and Bridge Construction. The DOT Specifications, are referred to herein and are hereby made a part of this Contract to the extent of such references, and shall be as binding upon the Contract as though reproduced herein in their entirety.

DOT 700	Highway Signing
DOT 710	Painting Traffic Stripes
DOT 971	Paint Materials
DOT 993	Highway Delineators

1.04 SUBMITTALS

A. The Contractor shall submit shop drawings and other information to the Engineer for review in accordance with Section 01300 - Submittals.

1.05 QUALITY ASSURANCE

A. All road work shall be in full compliance with local and state codes, standards and regulations, the State of Florida "Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways" and "Manual of Traffic Control and Safe Practices for the Streets and Highway Construction Maintenance and Utility Operation."

1.06 GUARANTEE

A. The Contractor shall furnish the manufacturer's certification that all signs furnished conform to these specifications and shall replace or repair at his expense all signs that fail to meet this requirement.

PART 2 -- PRODUCTS

2.01 PAVEMENT MARKING

A. Paint for pavement strips shall be reflectorized in conformance with DOT Sections 710 and 971.

2.02 TRAFFIC SIGNS

A. General: Traffic regulating signs shall conform to the colors, dimensions and requirements of Reflectorized Signs as specified in DOT Section 700 and displaying the lettering and symbols indicated on the Drawings.

B. Sign Panels and Support Members: Sign panels and support members shall conform to Aluminum Association Alloy 6061-T6.

C. Bolts: Bolts shall conform to Aluminum Association Alloy 2024-T4 with an anodic coating 0.0002 inches thick minimum and chromate sealed.

D. Nuts: Nuts shall conform to Aluminum Association Alloy 6269-T9.

E. Reflective Sheeting: Reflective sheeting shall conform to DOT Section 700, Type A requirements.

PART 3 -- EXECUTION

3.01 FABRICATION

A. Preparation of sign blanks and fabrication of reflectorized faces shall conform to the applicable requirements of DOT Sections 700-4 and 700-5.

3.02 INSTALLATION

A. Sign and supports shall be erected in accordance with the applicable details and specifications of DOT.

- END OF SECTION -

SECTION 02750
PORTLAND CEMENT CONCRETE PAVING

PART 1-GENERAL

1.01 WORK INCLUDED

A. Provide labor, materials, equipment transportation, and services to complete the construction of walks and other concrete areas and the installation Portland Cement Concrete Paving work, as indicated on the drawings, as specified herein, or both.

B. Including, but not necessarily limited to the following:

1. Fill, subgrade, and lime rock base
2. Concrete form work
3. Concrete reinforcement
4. Concrete paving
5. Thrust blocks for waterlines

1.02 RELATED WORK

A. Division 2- Fine Grading

1.03 QUALITY ASSURANCE

A. Inspection and Testing:

1. Test Cylinders- ASTM C-39
   a. Minimum of three (3) concrete test cylinders shall be taken for every 50 or less cubic yards of concrete placed.

   b. Minimum of one (1) additional test cylinder shall be taken during any cold weather concreting, and be cured on job site under same conditions as the concrete in represents.

2. Slump Test – ASTM C-143
   a. Minimum of one (1) slump test shall be taken for each set of test cylinders taken.

1.04 SUBMITTALS

A. Test reports of concrete compression, yield, air content, and slump tests.

B. Certificates

1. Manufacturer's certification that materials meet specification requirements.
2. Material content per cubic yard of each class of concrete furnished.

   a. Dry weights of cement

b. Saturated surface-dried weights of fine and coarse aggregate
c. Quantities, type, and name of admixtures
d. Weight of water

3. Ready-mix delivery tickets, ASTM C-94

C. Shop Drawings

1. Show sizes and dimensions for fabrication and placing of wire mesh or reinforcing steel and bar supports.

2. Indicate bar schedules, stirrup spacing, and diagrams of bend bars.

3. Detail items of form systems affecting appearance of architectural concrete surfaces such as joints, tie holes, liners, patterns, and textures. Show items in relation to entire form system.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver reinforcement to project site in bundles marked with metal tags indicating bar size and length.
B. Handle and store materials to prevent contamination.

1.06 PROJECT CONDITIONS

A. Allowable concrete temperatures

1. Hot Weather: Maximum 90°F as per ASTM C-94

B. Do not place concrete during rain, unless protection is provided.

PART 2- MATERIALS

2.01 READY-MIXED CONCRETE

A. Cement

1. ASTM C-150, Normal Type 1

B. Admixtures

1. Air entraining: ASTM C-260-77
2. Water –Reducing: ASTM C494-82, Type A
3. Water-Reducing and Retarding: ASTM C494-92, Type D
4. Do not use calcium chloride or admixtures containing more than one percent (1%) chloride ions.

C. Coarse Aggregate

1. Not less than 50% clean, hard, crushed, stone conforming to requirements of Table 2, size number 467 ASTM C-33.

D. Slump 3-inch maximum; plus tolerance 0, minus tolerance 1 inch.

E. Air Content: 5%, +/- 1%

F. Mix Proportioning

1. 28-day compressive strength of moist cured laboratory samples 3,500 PSI.
2. Minimum cement content five stacks/cubic yard.

G. Curing Material: Liquid membrane, ASTM C-309, Type 1

H. Clear Sealer

1. Clear as manufactured by Guardian Chemical Company, or approved equal.

I. Mixes

1. ASTM C-94
2. Mix concrete only in quantities for immediate use.
3. Do not retemper or use set concrete.

2.02 REINFORCEMENT

A. Reinforcing Steel Bars

4. 60 PSI yield strength; deformed billet steel bars; ASTM A-615, plain finish

B. Tie Wire

1. FS QQ-Wj-461-G, annealed steel, black, 16ga minimum.

C. Bar Supports

1. Conform at "Bar Support Specifications", CRSI Manual of Standard Practice.

2.03 FORMWORK AND ACESSORIES

A. Formwork: Matched tight fitting and adequately stiffened to support weight of concrete without deflection, detrimental to tolerance and appearance of concrete, conform with ACI 347, Chapter 3, Material and Form Work.

B. Lumber

1. Softwood framing lumber: kiln dried, PS-20.
2. Boards less than 1.5 inch thick and 2 inch used for basic forms and form liners: Kiln dried.
3. Grade-marked by grading rules agency approved by American Lumber Standards Committee.
4. Light framing or studs for board or plywood forms, 2-inch to 4-inch width and thickness Construction Standard grade.
5. Boards for basic forms Construction Standard grade.
6. Board surface: smooth.

C. Plywood

1. Exterior type softwood plywood, PS 1-66.
2. Each panel stamped or branded indicating veneer grades, species, type, and identification.
3. Wood faced plywood for architectural concrete surfaces.
   a. Panel veneer grades: B-C.
   b. Mill-oiled sides and mill sealed edges of panels.

D. Ties

1. Material: stainless steel
2. Type: snap ties
3. Depth or break back: 1 inch
4. Maimum diameter: ¼ inch

E. Form Coatings

1. Non-staining type
2. Agent: pine oil derivative

2.04 WATER

A. Clean and potable.

2.05 GROUT

A. Non-Shrink Grout

1. Premixed, nonferrous, cementitious mixture with a 28-day strength of at least 6,000 PSI. Mixtures to be placed in excess of a one-inch (1") thickness may include 3/8" pea gravel.

2.06 EXPANSION JOINT

A. Joint Material: Joint sealer is to be gray Sonolastic SLI, manufactured by Rexword Chemical Products, Inc., Minneapolis, MN or approved equal.

PART 3- EXECUTION

3.01 BARRICADES

A. Provide temporary barricades around areas of operation and maintain until work under this section is completed and approved.

B. Install temporary traffic, markers, signals, and signs to:

1. Eliminate potential hazardous conditions.

2. Maintain adequate traffic patterns free of conflict with work under this contract.

3.02 PREPARATION OF SUBGRADE

A. Bring subgrade to required elevations. The finished subgrade shall be maintained in a smooth compact condition and any areas which are disturbed prior to placing of the concrete shall be restored at the Contractor's expense. The subgrade shall be moist at the time the concrete is placed. Water shall be uniformly applied ahead of the pouring operations as directed by the Owner's representative. Debris and obstruction shall be removed to a minimum depth of 6 inches (6") below the finished subgrade elevation, and the space shall be back filled with sand, base course material, or other suitable material which shall be thoroughly compacted by rolling or tamping.

B. Fill soft spots and hollows with additional fill. The subgrade shall be accurately trimmed to the required elevation with a ¼ inch tolerance. High areas shall be trimmed to proper elevation. Low areas may be filled with suitable material and compacted to the specified density or filled with concrete integrally with the placing of the pavement

C. Level and compact subgrade to receive rock base for concrete walks, curbs, and gutters, to 98% compaction per AASHTO T-180.

3.03 FORMWORK

A. Design, construct, and remove for safety of formwork and shoring.

B. Provide forms to shape, lines, and dimensions of members shown: substantial tight enough to prevent leakage, and properly braced or tied to maintain position and size, and form sides and bottoms of members.

C. Fill voids of plywood joints with sealant and tool smooth.

D. Form vertical surfaces to fill depth and securely position to required lines and levels. Do not place form ties to pass through concrete.

E. Arrange and assemble formwork to permit easy dismantling and stripping, and to prevent damage to concrete formwork removal.

3.04 REINFORCING

A. Reinforce concrete walks, curbs, and gutters as shown on the plans and details. Allow for minimum 2 inch concrete cover.

B. Do not extend reinforcing through expansion and contraction joints. Provide doweled joint through expansion and contraction joints, with one end of dowels fitting with capping sleeve to allow free movement.

3.05 FORMING EXPANSION AND CONTRACTION JOINTS

A. Place expansion joints as shown on the drawings (approximately 30' O.C. spacing) and contraction joints as shown on the drawings (approximately 5' O.C.). Where curbs abut walks, make joints coincide. When sidewalks abut building, provide continuous joint filler.

B. Fit joints with filler of required profiles, set perpendicular to longitudinal axis of walks, curbs, and gutters. Recess ½ inch below finished concrete surface.

3.06 INSPECTION

A. Assure that excavation and formwork are completed and excess water is removed.

B. Check that reinforcement is secured in placed.

C. Verify that expansion joint material, anchors, and other embedded items are secured in position.

3.07 PREPARATIION FOR POURS

A. Notify the Owner and other inspectors at least 24 hours prior to inspection.

B. Equipment forms and reinforcing shall be clean and wet down, reinforcing firmly secured in place, runways set up and not resting on or displaying reinforcing.

3.08 PLACING CONCRETE

A. Mixing and conveying shall be as per ASTM C-94 and as follows:

1. Maximum elapsed time from addition of water to placing in forms – 90 minutes (total mixing time). Do not place partially hardened concrete.

2. Concrete handled and placed by methods which keep concrete plastic, prevent separation of materials, and do not displace reinforcement.

B. Deposit as close as possible to final position to avoid segregation of materials. Restrict drop to 3-foot maximum (less for exposed concrete), using tremie if necessary. Do not allow concrete to spill over forms when placing. Use shovels for hand spreading, not rakes. The concrete shall be distributed on the subgrade to such depth that, when it is consolidated and finished, the thickness required by the drawings will be obtained at all points and the surface will at no point be below the grade specified for the finished surface. The concrete shall be deposited on the subgrade in a manner which will require as little re-handling as possible. Placing of the concrete shall be continuous between transverse joints, without the use of intermediate bulkheads.

1. Compact by mechanical vibration to thoroughly work around reinforcing and eliminate honeycomb.

C. Place concrete in accordance with ACI 301.

D. Hot Weather Placement: ACI 301

E. Cold Weather Placement: ACI 301.

F. Space concrete around gangs of parallel conduit.

G. Ensure reinforcement, inserts, embedded parts, and formed joints are not disturbed during concrete placement.

H. Maintain concrete cover around reinforcing as follows:

Item	Coverage
Walls (exposed to weather to backfill)	2 inch
Footing and Concrete Formed Against Each	3 inch
Slabs on Fill	2 Inch

Do not place concrete within 25 feet (25') of workmen who are placing or securing reinforcing.

I. Place concrete continuously between predetermined construction and control joints. Do not break or interrupt successive pours such that cold joints occur.

J. Separate exterior slabs on fill from vertical surfaces with joint filler. Extend joint filler from bottom of slab to within ½ inch of finished slab surface.

K. Excessive honeycomb or embedded debris in concrete is not acceptable. Notify Owner's Representative upon discovery.

L. Bond joint between hardened and fresh concrete as follows: roughen surface, clean off foreign matter and laitance, and dampen with water.

M. Round edges, including edges of expansion and contraction joints, with ½ inch radius edging tool.

N. Where concrete curbs are adjacent to pavement slabs, make concrete curbs and gutters integral with slabs. Make expansion and contraction joints of curbs coincide with slab joints.

O. Do not vary finished surfaces from true lines, levels, or grade by more than 1/8 inch in 10 feet when measured with straightedge.

P. Apply curing compound on finished surfaces immediately after placement. Apply in accordance with manufacturer's recommendations.

Q. Saw cutting will not be permitted.

R. Striking-Off, Consolidating and Finishing Concrete: Immediately after placing, the concrete shall be struck off, consolidated and finished, to produce a finished product conforming to the cross section, width and surface finish required by the Drawings and Specifications.

S. Contraction Joints: Provide contraction joints, sectioning concrete into areas as shown on the Drawings. Construction joints for a depth equal to at least ¼ concrete thickness, as follows:

1. Tooled Joints: Form joints in fresh concrete by grooving top portion with a recommended cutting tool and finishing edges with jointer.

2. Sawed Joints: If required, form joints using powered saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut joints into hardened concrete as soon (no more than 12 hours) as surface will not be torn, abraded, or otherwise damaged by cutting action.

3. Contraction joints shall be placed at intervals equal to the width of the slab for walks; intervals shall not exceed 10 feet.

4. Contraction joints from concrete banding shall be at 10 foot intervals.

3.09 CONCRETE FINISHING

A. Unexposed concrete work shall be patched and repaired immediately after removal of forms.

1. Cut off metal ties a minimum of one inch (1") back from surface on concrete.

2. Moderate honeycomb cut out of prepared for patching. Severe honeycomb with exposed steel reinforcing is to be removed and replaced.

3. Wet areas for patching and pack carefully with rich mortar rubbed to match surface.

B. Provide concrete surfaces to be left exposed, walls, columns, beams, with smooth rubbed finish.

C. Concrete work cross slope shall be 1% minimum/ 2% maximum. Longitudinal sloping shall meet current ADA requirements.

D. Exposed concrete work shall be patched and repaired as accepted by Owner's Representative after consultation. Patching and rubbing will be kept to a minimum if possible, but when necessary will be done with great care to obtain maximum degree of matching in color and texture to adjacent finished concrete surfaces.

E. Monolithic finish using care to obtain a level of surface; floors out of level or with variation greater than 1/8 inch to 10 feet shall be corrected.

F. All finishes shall be as called for on the drawings.

G. Concrete Finishes:

1. After striking-off and consolidating concrete, smooth the surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust the floating to compact the surface and produce a uniform texture. The use of additional water will be prohibited in all phases of the finishing.

2. After floating, test surface for trueness with a 10 foot straightedge. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous smooth finish.

3. Work edges of gutters, back top edge to curb, score lines and formed joints with an edging tool and round to ½" radius, unless otherwise indicated. Eliminate any tool marks on concrete surface.

4. After completion of floating, and when excess moisture or surface sheen has disappeared, complete surface finishing.

5. Do not remove forms for 24 hours after concrete has been placed. After form removal, clean ends of joints and point-up any minor honeycombed areas on exposed banding. Remove and replace areas or sections with major defects.

H. General: Construction expansion, contraction, and construction joints true-to-line with face perpendicular to surface of the concrete, unless otherwise indicated. Construct transverse joints at right angles to the centerline, unless otherwise indicated.

I. Curing:

1. After the finishing operations have been completed and as soon as the concrete has hardened sufficiently that marring of the surface will not occur, the entire surface and the edges of the newly placed

concrete shall be water cured by misting or covering with a double thickness of burlap, cotton mats, or other approved material kept thoroughly saturated with water.

2. The forms shall be kept wet until removed and upon removal, the curing specified herein shall be started immediately.

3. Concrete shall be cured for a period of 7 days for normal Portland cement or 4 days for high early strength cement.

4. Concrete poured in the dry shall not be submerged until it has attained sufficient strength to adequately sustain the stress involved, nor shall it be subjected to flowing water across the surface for 4 days.

5. Curing for stand gray work after finishing, cure concrete by keeping moist for one (1) week after placement. Floors and vertical surfaces may be sprayed with an approved curing compound to retard evaporation of water, if spraying is not objectionable because of future finishing requirements. Begin curing operations as soon as the concrete has attained its initial set. Keep exposed concrete surface moist for at least one (1) week.

3.10 CONCRETE PATCHING AND REPAIRS

A. General

1. Do not patch until concrete has been reviewed by Owner's Representative. Repair surface defects, including tie holes, immediately after form removal. Dampen the area to be patched and an area at least six inches (6") wide surrounding it to prevent absorption of water from the patching mortar.

B. Removal of Defective Concrete

1. Remove all honeycombed and other defective concrete down to sound concrete. Cut edges perpendicular to the surface and cut back from true line a minimum of one inch (1") over the entire area. Avoid feathered edges.

C. Bonding Grout

1. Thoroughly dampen surfaces to be patched and apply a coat of bonding grout brushed into the surface. Prepare grout of one part cement to one part fine sand passing a No. 30 sieve and to the consistency of thick cream.

D. Patching Mortar

1. Make the patching mortar of the same materials and of approximately the same proportions used for the concrete, except omit the coarse aggregate and make the mortar of not more than one (1) part of cement to two and one-half (2.5) parts sand by damp loose volume. Add no more mixing water than necessary for handling and placing. Mix the patching mortar in advance to allow to stand with frequent manipulation with a trowel, without the addition of water, until it has achieved the stiffest consistency that will permit placing.

E. Placing Patching Mortar

1. After the bonding grout begins to lose its water sheen, apply the patching mortar. Thoroughly consolidate patching mortar into place and strike off so as to leave the patch slightly higher than the surrounding surface. Leave undisturbed for one (1) hour to permit initial shrinkage and then finish.

F. Accomplish all repairs in such a manner that the completed surface will conform to the finish requirements of the specification using methods that will not disturb the bond or cause sagging or horizontal fractures. Provide surfaces of said repairs with the same din and amount of curing treatment as required for the concrete in the unrepaired section.

G. Tie Holes

1. After being cleaned and thoroughly dampened, fill the tie holes solid with patching mortar.

H. Temperature and Shrinkage Cracks

1. Repair temperature and shrinkage cracks which develop prior to final acceptance of the work.

I. Major Defective Areas

1. If the defects are serious or affect the strength of the structure, or if patching does not satisfactorily restore the quality and appearance to the surface, the Owner's representative may require the concrete to be removed and replaced complete in accordance with the provisions of this section. This shall be done at no additional cost to the Owner.

3.11 DEFECTIVE CONCRETE

A. Modify or replace concrete not conforming to required levels and lines, details, and elevations.

B. Repair or replace concrete not properly placed or of the specified type.

3.12 FIELD QUALITY CONCRETE

A. Field inspection and testing will be performed in accordance with Section 01400, Testing and Inspection.

B. Maintain records of placed concrete items. Record date, location of pour, quantity, air temperature, and test samples taken.

3.13 PROTECTION

A. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. During curing period, protect concrete from damaging mechanical disturbances, water flow, loading, shock, and vibration.

3.14 CLEAN-UP

A. Remove debris and excess material immediately from project site.

B. Take down barricades and temporary traffic markers, signals, and signs only after work included in this section is finished and inspected.

C. Leave project area neat, orderly, and free of any hazardous conditions.

END OF SECTION

SECTION 02751

PREPARATORY CLEANING AND ROOT REMOVAL

PART 1 -- GENERAL

1.01 SCOPE

A. This Section covers the preparatory cleaning of storm sewer lines and manholes as needed prior to the internal survey of the storm sewer lines by closed-circuit television. It also covers the preparatory cleaning and root removal from storm sewer lines and the cleaning of manholes/inlets prior to rehabilitation. The Contractor shall furnish all necessary material, labor, equipment and services required for cleaning the specific sewer lines.

1.02 GENERAL

A. Storm Sewer Line Cleaning: The intent of pipe line cleaning is to remove foreign materials from the lines and restore the pipe to a minimum of 95% of the original carrying capacity or as required for proper seating of internal pipe joint sealing packers. Since the success of other phases of work depends a great deal on the cleanliness of the lines, the importance of this phase of the operation is emphasized. It is recognized that there are some conditions such as broken pipe and major blockages that prevent cleaning from being accomplished or where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered, they should be brought to the Owner's attention immediately, so that a determination may be made as to whether or not the Contractor will be required to clean those specific sections. If, in the course of normal cleaning operations, damage does result from preexisting and unforeseen conditions such as broken pipe, the Contractor shall immediately contact the Owner. Damage caused by the Contractor's negligence shall be repaired or replaced at the Contractor's expense.

B. Manhole/Inlet Cleaning: All concrete and masonry surfaces must be cleaned prior to repair. Grease, laitance, loose bricks, mortar, unsound concrete, and other materials must be completely removed. Water blasting (minimum 3500 psi) utilizing proper nozzles shall be the primary method of cleaning; however, other methods such as wet or dry sandblasting, acid wash, concrete cleaners, degreasers or mechanical means may be required to properly clean the surface. Surfaces on which these other methods are used shall be thoroughly rinsed, scrubbed, and neutralized to remove cleaning agents and their reactant products.

1.03 HYDRAULIC CLEANING EQUIPMENT

A. Hydraulically Propelled Equipment: The equipment used shall be of a movable dam type and be constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the storm sewer. The movable dam shall be equal in diameter to the pipe being cleaned and shall provide a flexible scraper around the outer periphery to insure removal of debris. If sewer cleaning balls or other equipment which cannot be collapsed are used, special precautions to prevent flooding of the storm sewers and public or private property shall be taken.

B. High-Velocity Jet (Hydrocleaning) Equipment: All high-velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection

3.05 CHEMICAL ROOT TREATMENT

A. To aid in the removal of roots, pipe sections that have root intrusion may be treated with an acceptable herbicide. The application of the herbicide to the roots shall be done in accordance with the manufacturer's recommendations and specifications in such a manner to preclude damage to surrounding vegetation. Any damaged vegetation so designated by the Engineer shall be replaced by the Contractor at no additional cost to the Owner. All safety precautions as recommended by the manufacturer shall be adhered to concerning handling and application of the herbicide.

B. Use of herbicide for root treatment, shall not be permitted in those areas or in such a manner that chemicals are discharged into tidal waters. Prior to the use of root treatment chemicals. The Contractor must provide a plan to assure herbicides will not be introduced into waters of the State or other sensitive areas in such quantity or concentration to cause damage to the estuarine environment.

3.06 ROOT REMOVAL

A. Roots shall be removed in the designated sections and manholes where root intrusion is indicated on the work order. Special attention should be exercised during the cleaning operation to assure almost complete removal of roots from the joints. Any roots which could prevent the traveling of the packer or could prevent the proper application of chemical sealants, or could prevent the proper seating and application of cured-in-place, fold-and-formed or sectional cured-in-place liners, shall be removed. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutters and porcupines, and equipment such as high-velocity jet cleaners. Chemical root treatment may be used before the root removal operation. Contractor shall capture and remove all roots from the line.

3.07 ACCEPTANCE OF CLEANING OPERATION

A. Acceptance of storm sewer line cleaning shall be made upon the successful completion of the television survey and shall be to the satisfaction of the Owner. If television survey shows the cleaning to be unsatisfactory, the Contractor shall be required to reclean and reinspect the storm sewer line until the cleaning is shown to be satisfactory. In areas where television survey is not performed, the Owner may require the Contractor to pull a double squeegee (with each squeegee the same diameter as the sewer) through each pipe section as evidence of adequate cleaning. If internal sealing is to follow the television survey, particular attention should be given to the adequacy of the cleaning to insure that proper seating of the sealing packer can be achieved.

B. In addition, on all those lines which have sags or dips, to an extent that the television camera lens becomes submerged for three (3) or more feet during the television inspection, the Contractor shall pull double squeegee and/or sponges through the line in order to remove the water from those dips or sags. Water removal through squeegees and/or sponges shall be performed until the television camera lens will not longer be submerged. This requirement may be waived by the Owner if the water in which the camera lens is submerged, is clear enough to allow the identification of pipe defects, cracks, holes and location of service taps.

- END OF SECTION -

SECTION 02752

STORMWATER FLOW CONTROL

PART 1 -- GENERAL

1.01 SCOPE OF WORK

A. The work specified in this Section includes all labor, materials, accessories, equipment and tools for performing all operations required to bypass pump stormwater (or infiltrating groundwater) around a manhole or sewer section in which work is to be performed. The Contractor shall be prepared to bypass pump water as a part of his operations.

B. The Contractor shall provide all pumps, piping, and other equipment to accomplish this task; perform all construction; obtain all permits; pay all costs; and perform complete restoration of all existing facilities to equal or better condition to the satisfaction of the Engineer.

1.02 GENERAL

A. When sewer line flows at the upstream manhole of the manhole section being repaired are above the maximum allowable requirements for television survey, or do not allow the proper sewer or manhole repair, the flows shall be reduced to the levels indicated by the Contractor pumping/bypassing of the flows as acceptable to the Engineer.

B. In some applications, the flow may be plugged and contained within the capacity of the collection system. This shall only be done when it has been determined the system can accommodate the surcharging without any adverse impact.

C. For the initial television survey, before and after a lining is installed, the storm sewer line shall be blocked completely. No flow, except infiltration/inflow, will be allowed through the respective sewer line being televised on the pre-repair television survey, and the post repair television survey.

D. For all other television surveys, including warranty surveys and joint testing and sealing, the depth of flow within the storm sewer shall not exceed that shown below for the respective pipe sizes as measured in the manhole.

1. Maximum Depth of Flow ..... Television Survey

   6" - 10" Pipe ..... 20% of pipe diameter

   12" - 24" Pipe ..... 25% of pipe diameter

   Above 24" Pipe ..... 30% of pipe diameter

2. Maximum Depth of Flow ..... Joint Testing/Sealing

   6" - 12" Pipe ..... 25% of pipe diameter

   15" - 24" Pipe ..... 30% of pipe diameter

Above 24" Pipe ..... 35% of pipe diameter

E. When sewer line flows at the upstream manhole of the line being repaired, in the opinion of the Engineer, are too excessive to plug while the rehabilitation is being performed; the Contractor shall submit a written plan and pump/bypass the flow as acceptable to the Engineer.

1.03 SUBMITTALS

A. The Contractor shall submit complete, detailed plans for this aspect of the work to the Engineer for review.

PART 2 -- PRODUCTS (Not Used)

PART 3 -- EXECUTION

3.01 PLUGGING AND BLOCKING

A. A sewer line plug shall be inserted into the line at a manhole upstream from the section being surveyed or repaired. The plug shall be so designed that all or any portion of the operation flows can be released. During the survey portion of the operation, flows shall be shut off or reduced to within the maximum flow limits specified. During repairs, the flows shall be shut off or pumped / bypassed, as acceptable to the Engineer. After the work tasks have been completed, flows shall be restored to normal.

3.02 PUMPING AND BYPASSING

A. When pumping/bypassing is required, as determined by the Engineer, the Contractor will supply the necessary pumps, conduits and other equipment to divert the flow of water around the section in which work is to be performed. The bypass system shall be of sufficient capacity to handle existing flows plus additional flow that may occur during periods of rain storms. The Contractor will be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system. A "setup" consists of the necessary pumps, conduits and other equipment to divert the flow of water around a section, from the start to finish of work performed in the section.

B. Pumps and equipment shall be continuously monitored by a maintenance person capable of starting, stopping, refueling and maintaining these pumps during the rehabilitation. If pumping is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum.

3.03 FLOW CONTROL PRECAUTIONS

A. Pumps: Any sump pumps, bypass pumps, trash pumps or any other type pump which pulls water or any type of material out of the manhole or storm sewer shall discharge this material into another manhole, or appropriate vehicle or container acceptable to the Engineer. Under no circumstances shall this material be discharged, stored or deposited on the ground, swale, road or open environment.

B. Traffic Control: The Contractor shall take appropriate steps to ensure that all pumps, piping and hoses that carry raw storm water are protected from traffic. Traffic control shall be performed in accordance with Section 01570 - Traffic Regulation and Maintenance of Traffic.

- END OF SECTION -

SECTION 02753

TELEVISION SURVEY

PART 1 -- GENERAL

1.01 SCOPE

A. The work consists of furnishing all labor, materials, accessories, equipment, tools, transportation, services and technical competence for performing all operations required to execute the internal closed circuit television survey to inspect the entire barrel of storm sewers up to 66 inches in diameter.

B. The survey shall show all defects and determine amount of infiltration entering the storm sewer system.

1.02 GENERAL

A. After cleaning as specified in Section 02751- Preparatory Cleaning and Root Removal, and before and after rehabilitation operation/replacement work, the pipe sections shall be visually surveyed by means of closed-circuit television in the presence of the Engineer. The survey shall be performed one inlet to inlet section at a time and the flow in the section being surveyed shall be suitably controlled.

B. Pre- and post-construction survey video recordings shall be delivered to the Engineer (with sections included clearly identified), accompanied with the corresponding work order, and pre- and post-TV log, for each storm sewer line surveyed.

1.03 EQUIPMENT

A. The television camera used for the survey shall be one specifically designed and constructed for such survey and shall be of the pan and tilt type. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera, television monitor, and other components of the video system shall be capable of producing a minimum 700 line resolution color video picture. The Contractor shall maintain camera in clear focus at all times. Picture quality and definition shall be to the satisfaction of the Engineer; and if unsatisfactory, equipment shall be removed and replaced with adequate equipment.

B. The video camera shall include a titler feature capable of showing on the tape the following information:

1. City and State
2. Date
3. Contractor's Name
4. Line Size

5. Inlet Identification (both inlets)

6. On-going Footage Counter

1.04 SUBMITTALS

A. Prior to performing a television survey for the work orders, the Contractor shall submit shop drawings and other information reasonably requested by the Owner or Engineer. The Contractor's submittals shall include a DVD with a sample of the video titles to be used, along with a sample of the television survey log to be used.

PART 2 -- PRODUCTS

2.01 VIDEO RECORDING

A. DVD shall be supplied for all television surveys.

B. All taping shall be performed at a minimum of 720x480 Progressive scan resolution. All DVDs shall be submitted to the Engineer and will become the property of the Owner.

C. Format to be MPEG2.

2.02 VIDEO LOGS

A. Video reports or logs are to be neat and completely filled out and submitted to the Engineer along with the DVD.

PART 3 -- EXECUTION

3.01 PRECONSTRUCTION SURVEY

A. Procedure

1. Prior to any repair work, the entire storm sewer line (from inlet to inlet/manhole to manhole) shall be televised. The camera shall be placed at the center of the inlet and recording shall commence prior to entering the pipe. The Contractor shall show the inside of the manhole walls and the pipe connection to the wall at both the upstream and downstream inlet/manhole.

2. The camera shall be moved through the line in either direction at a moderate rate, stopping when necessary to permit proper documentation of the pipe's condition. In no case shall the television camera be pulled at a speed greater than 30 feet per minute. Manual winches, power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the pipe conditions may be used to move the camera through the pipe. If the camera is being pulled through the pipe by a hydraulic cleaning unit hose the cleaning nozzle shall be located a minimum of eight (8) feet away from the camera to allow a clear, unobstructed view. A jet nozzle shall be used in front of camera while televising through a dip to draft out water. If, during the survey operation, the

television camera will not pass through the entire inlet section, the Contractor shall set up his equipment so that the survey can be performed from the opposite inlet.

3. Whenever nonremote powered and controlled winches are used to pull the television camera through the line, telephones or other suitable means of communication shall be set up between the two manholes/inlets of the section being surveyed to insure good communication between members of the crew.

4. Measurement for location of defects shall be above ground by means of a meter device. Marking on the cable, or the like, which would require interpolation for depth of inlets, will not be allowed. Measurement meters shall be accurate to tenths of a foot over the length of the section being surveyed. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, or other suitable device. Inlet numbers and linear footage shall be shown on screen during taping.

5. Movement of the television camera shall be temporarily halted for a minimum of ten seconds at each visible point source of separation, infiltration or inflow until the leakage rate from that source is quantified or the magnitude of the defect is estimated. The camera shall be stopped at all lateral connections, which shall be inspected with the pan and tilt camera.

B. Field Documentation

1. Television Survey Logs: Printed location records shall be kept by the Contractor and will clearly show the location in relation to an adjacent inlet of each infiltration point observed during survey. Upstream footage (0) and downstream footage (i.e., 250) shall be shown on the log. In addition, other points of significance such as locations of building connections, unusual conditions, roots, sewer connections, broken pipe, presence of scale and corrosion, and other discernible features will be recorded and a copy of such records will be supplied to the Engineer. The Contractor shall measure the depth of the upstream and downstream inlets. Measurements shall be from the invert of the pipe televised to the top of the manhole rim and shall be recorded on the survey log.

2. Photographs: Instant developing, 35 mm, or other standard-size photographs of the television picture of problems shall be taken by the Contractor upon request of the Engineer.

3. Video Recordings: The purpose of video recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. Video recording playback shall be at the same speed that it was recorded. Slow motion or stop motion playback features shall be supplied by the Contractor. Once recorded, the information becomes property of the Owner. The Contractor shall have all recordings and necessary playback equipment readily accessible for review by the Owner during the Project.

4. Audio: All recordings shall have audio record. As a preamble, at the beginning of the video, the Contractor shall state the following: (Contractor's Name) is performing a pre/post TV survey for the Town of Jupiter Storm Sewer System". State date, time, operator's name, area/location, upstream inlet/manhole number to downstream inlet/manhole number, pipe size and material, upstream manhole depth, and TV

survey will be from up- to downstream, or down- to upstream. The Contractor shall verbally state station and position of all laterals and defects. At the end of each line, state: End of line, upstream number to downstream inlet number, and total linear footage.

3.02 POST CONSTRUCTION SURVEY

A. Procedure

1. The same procedures shall be used as indicated in Section 3.01 PRECONSTRUCTION SURVEY.

2. In addition, the Contractor shall stop camera at all point repairs and sectional repairs and inspect entire repaired pipe section.

3. The Contractor shall invert white foreground to black as needed in the line section with light background.

B. Documentation

1. The same documentation shall be provided as indicated in Section 3.01 PRECONSTRUCTION SURVEY.

- END OF SECTION -

SECTION 02754

STORM SEWER INLETS AND MANHOLES

PART 1 -- GENERAL

1.01 SCOPE

A. The work specified in this Section includes all labor, materials, accessories, equipment and tools necessary to install and test precast concrete inlets and manholes, with or without outside drop connections. Inlets and manholes shall be located on existing storm sewer line segments or at intersection ("T") of existing storm sewer lines.

1.02 SUBMITTALS

A. The Contractor shall submit Shop Drawings and other information for review in accordance with Section 01300 - Submittals, including: dimensions; elevations; dewatering, sheeting and bracing plans; cement type; concrete strength; reinforcement; lifting hooks; joint material; openings; castings; and other applicable information.

1.03 UPLIFT

A. All precast concrete inlets and manholes placed below grade shall have adequate safety factors against uplift (excluding weight of soil and associated skin friction) as follows:

Water Elevation	Safety Factor
High water level (H.W.L)	1.5
100 year flood	1.2

PART 2 -- PRODUCTS

2.01 FRAMES AND COVERS

A. All workmanship and materials shall be of the highest quality. Inlets, grates, frames, manholes rings, and cover shall be the product of a manufacturer actively engaged in research, development, and manufacturing of inlets and manholes rings and covers.

B. Frames and covers shall be U.S. Foundry No. 230-AB-M or equal. Inlets and manholes cover shall have the word "STORM SEWER" cast into the metal per Jupiter Stormwater Construction Standards and Details.

C. Inlets and manhole chimneys shall be constructed with Type II Portland Cement conforming to ASTM C 150 and sewer brick. The bricks used shall be best quality, hard burned sewer brick, regular and uniform in size and shape. They shall be of compact texture and shall not absorb more than 16 percent by volume of water after 24 hours of immersion. The brick shall conform to ASTM Designation C 32. If grade rings are to be used for chimneys, the Contractor must submit a shop drawing for review according to Section 01300 - Submittals.

2.02 PRECAST INLETS AND MANHOLES

A. Precast concrete inlets and manholes or sections (hereinafter referred to as "precast sections") shall be furnished with waterstops, sleeves and openings as necessary described in the work order. Box out for wall pipes shall conform accurately to the sizes and elevations of the adjoining pipes. Precast sections shall be watertight and conform to the requirements of ASTM C 478 with reinforcement of ASTM A 615, Grade 60 bars and the following modifications there to:

1. The minimum wall thickness shall be 8 inches.

2. Cement to be used in precast inlets and manholes and grout shall be ASTM C 150, Type II.

3. The date and name of manufacturer shall be marked inside each precast sections.

4. No more than 2 lift holes may be cast or drilled in each section.

5. Minimum 28-day concrete strength shall be 4000 psi.

2.03 MANUFACTURER

A. Inlets and manholes structure and liner shall be manufactured by U.S. Precast Corporation, or equal.

2.04 GASKETS AND FINISH

A. The joint sealing shall be Ram-Neck, a preformed, cold-applied, ready to use plastic joint sealing gasket as supplied by K.T.Snyder Company, or equal.

B. Finish for outside of new concrete inlets and manholes sections shall be Kop-Coat 300M Coal Tar Epoxy or equal.

PART 3 -- EXECUTION

3.01 PREPARATION

A. Traffic Control: The Contractor is required to obtain all permits, use appropriate traffic regulating devices, notify all appropriate governmental agencies and conform to all the requirements listed in Section 01570 - Traffic Regulation and Maintenance of Traffic.

B. Flow Control: Flow control shall be exercised as required.

1. Plugging and Blocking of Flow: A pipe line plug shall be inserted into the line at inlets and manholes upstream from the section to be inspected. The plug shall be so designed that all or any portion of the flows can be released. During the inspection, testing and replacement portion of the construction, flows shall be shut off or substantially reduced as indicated by the Engineer. The upstream inlets and manholes shall be constantly monitored for degree of surcharging. After the testing,

inspection or repair is complete, flows shall be restored to normal. See Section 02750 - Stormwater Flow Control for additional information.

2. Pumping and Bypassing of Flow: Wherever lines are blocked off and the possibility of backing up the water and causing harm to public and private property is foreseen, it shall be the Contractor's responsibility to bypass flow from inlets and manholes.

3. Bypassing shall be accomplished using sewer plugs with pump connections, by pumping down surcharged inlets and manholes, or by other methods acceptable to the Engineer. Bypassed flow shall not be allowed to enter any sanitary sewer line. See Section 02750 - Stormwater Flow Control for additional information.

4. During a bypass operation, the pump shall be manned continuously. The Contractor shall maintain the pump and bypass equipment and shall be responsible for any damages to public or private property due to the malfunction of same.

3.02 EXCAVATION AND BACKFILL

A. The Contractor shall excavate and backfill in accordance with Section 02222 - Excavation and Backfill for Utilities. Under no circumstances shall the Contractor be allowed to remove concrete or asphalt without prior cutting. The saw cutting shall be deep enough to produce an even, straight cut. Backfilling shall occur in 12-inch lifts with compaction by an engine driven hand tamp or other mechanical means as acceptable to the Engineer. Compaction shall be as specified in Article 3.07 of Section 02222; backfill material shall be as specified in Article 3.06 of Section 02222.

3.03 DEWATERING, SHEETING AND BRACING

A. The Contractor shall dewater, sheet and or brace all excavations in accordance with Section 02222 - Excavation and Backfill for Utilities. Well points, pumps, sheeting, bracing and/or sock drain shall be used to provide a safe, dry, open hole for all repairs or replacements specified herein.

3.04 NEW INLET AND MANHOLE CONSTRUCTION

A. General:

1. At the locations indicated by the Engineer, the Contractor shall excavate and locate the existing piping in order to obtain the relative elevations of existing sanitary sewer pipes with respect to ground surface elevation. Excavation shall be non-disruptive and non-destructive soil extraction as provided by Accurate Locating, Inc. or equal. After all measurements have been obtained, the excavated hole shall be backfilled and surface shall be restored to its original condition. Excavation and measurements shall be witnessed by the Engineer.

2. The pipe connections shall be cut to 2 to 3 feet outside the existing inlets and manholes exterior wall. Proper dewatering sheeting and bracing of the hole is critical; no inlets and manholes shall be allowed to be installed in an unsafe or wet hole.

B. Bedding Requirements: The Contractor shall excavate an additional 6 inches (min) below the base of the inlet or manhole and fill with "Crushed Stone" as defined in Section 02222 - Excavation and Backfill for Utilities and shown in the Details. The Contractor shall also use this crushed stone for bedding of all the pipe connections. No excavated fill shall be allowed in the hole until all connections are complete and proper bedding requirements have been met.

C. Setting Precast Sections

1. Precast reinforced concrete sections shall be set so as to be vertical and with sections in true alignment. A flexible, watertight gasket such as "Ram-Nek" or equal shall be used between sections.

2. The annulus at sewer pipe connections to inlets and manholes shall be clay brick and Portland cement type II mortar in accordance with Town of Jupiter Stormwater Construction Standards and Details.

3. All holes in sections, used for their handling, shall be thoroughly plugged with mortar. All seams, keyways, and pipe connections shall be thoroughly plugged with brick and mortar inside and out as needed. The mortar shall be hammered into the holes until it is dense and an excess of paste appears on the surface; then finished smooth and flush with the adjoining surfaces.

4. The Invert Elevations that were surveyed by the Contractor prior to inlets and manholes construction shall be used to install the inverts in the new inlets and manholes. The inverts shall be resurveyed and submitted to the Engineer for as-built purposes.

D. Finish:The outside of the precast sections shall be finished in accordance with the following:

Application	Description	DFT
Primary – 1 coat	Kop-Coat 300M Coal Tar Epoxy or equal	6 – 8
Second – 1 coat	Kop-Coat 300M Coal Tar Epoxy or equal	8 - 10

E. Backfill: The backfill shall be compacted; road subgrade (if in paved area) shall be replaced with acceptable material and compacted as specified in Section 02500 - Surface Restoration.

3.09 DISPOSAL

A. All excavated material such as pipe sections, concrete, debris or any other items excavated shall become property of the Contractor. The Contractor shall take full responsibility for proper disposal and include the cost in the appropriate bid items.

3.10 SURFACE RESTORATION

A. All surface restoration shall be in accordance with Section 02500 - Surface Restoration. Pavement, concrete, sod or any other surface items shall be replaced in equal or better condition then prior to repair.

3.11 TESTING

A. After construction or replacement work at each inlets and manholes has been completed and the materials used have been allowed to cure; it shall be tested for excess infiltration by the Contractor in the presence of the Engineer. THERE SHALL BE NO VISIBLE INFILTRATION. All inlets and manholes must meet this requirement before acceptance by the Owner.

- END OF SECTION -

SECTION 02757

POINT REPAIR OF STORM SEWERS

PART 1 -- GENERAL

1.01 SCOPE

A. The work specified in this Section includes repairs to sections or segments (up to 15 feet) of existing storm sewers, mains or service lines, which require excavation from the surface to accurately locate sources of infiltration or inflow and to eliminate them by making necessary repairs.

1.02 GENERAL

A. Reference is made to Division 15, "Mechanical". Methods, procedures and requirements are similar when sections of existing pipe have been crushed, cracked, or settled, or have holes in them and are to be replaced with new pipe. Generally, point repairs are made at specific locations and involve relatively short lengths of pipe or fittings (up to 15 feet) which are to be repaired or replaced. "Isolation" of affected reaches of storm piping by plugging and/or bypass pumping, if required, shall be performed as specified in (Section 02750 - Flow Control).

B Locations where point repairs are to be made will be made available to the Contractor through Work Orders and will be based on previously performed inspections and television surveys. It is understood that the exact location of pipe leaks and failures cannot always be determined before the pipe is exposed.

C. It is also understood that inspection and closed circuit television surveys performed by others prior to the commencement of this project cannot always determine the precise cause of leakage or failure. The pipe shall be exposed and the source located, examined and evaluated before repairs are made.

D. After the designated repairs have been made, the Contractor will test them as described in this Section of these Specifications. The costs of testing will be borne by the Contractor. If a repaired joint or section should prove to be defective, the Contractor shall reperform the work at no additional cost to the Owner and shall also be responsible for the costs of any retesting required by the Engineer.

E. Where work is to be performed on private property, the Contractor shall consult with the Owner who will make arrangements and schedules with the property owners before the Contractor performs the work.

F. Excavation, backfill, sheeting and shoring, dewatering, conflicts with other utilities, and miscellaneous work shall conform to the requirements in the Town of Jupiter Construction Standards and Details and Section 02222 - Excavation and Backfill for Utilities.

1.03 SUBMITTALS

A. The Contractor shall submit shop drawings (in accordance with Section 01300 Submittals) of products, and procedures to be used in the repair.

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Pipe materials are specified in Division 15, "Mechanical" and Town of Jupiter Construction Standards and Details.

PART 3 -- EXECUTION

3.01 PROCEDURES

A. The point repair procedures shall be as follows:

1. Site preparation shall be performed as described in Division 2. When the repairs are to be made on sewers or facilities lying under paved surfaces, those surfaces shall be removed to the limits shown on the Drawings/Details for point repairs of the particular size pipe involved, unless a proposed alternate is acceptable to the Engineer.

2. Dewater, sheet and or brace all excavations in accordance with Section 02222 - Excavation and Backfill for Utilities. Well points, pumps, sheeting, bracing and/or sock drain shall be used to provide a safe, dry, open hole for all repairs or replacements specified herein.

3. Excavate down to the pipe, completely exposing a minimum of four sections of pipe including three joints for non-plastic pipe or at least one joint for PVC pipe. This will normally be a distance of 12 to 16 feet, depending on the pipe section lengths.

4. Locate the leak to be repaired.

5. After the leak or failure is located and exposed, the Engineer will identify the method of rehabilitation. One or a combination of the following methods shall be used:

a. Remove and replace section(s) of pipe or fitting: Remove section(s) of defective pipe or fitting by cutting on each side along lines perpendicular to longitudinal axis of pipe so as to leave "spigot ends" to be connected to replacement pipe. Cut or fabricate replacement section. Make connections using flexible band couplings or adapters, couplings with compression joints in accordance with ASTM C 425. Bedding or embedment shall be placed and compacted. Reconnect to service line if required. As a minimum, a total of six (6) feet of piping shall be replaced by the Contractor.

b. Cement-stabilized sand shall be used to supplement the embedment or backfill when accepted by the Engineer. This shall consist of two sacks of

cement per cubic yard of sand thoroughly mixed. Only a sufficient amount of water shall be added to assure setting-up of the cement. These mixes shall be made before placing in the trench and only enough shall be prepared to allow placing, shaping and tamping before an initial set has taken place.

6. The adequacy of point repairs in sewer mains shall be demonstrated by the Contractor by testing. Testing of mains may be accomplished by one of two alternate methods, depending on the difference in elevation of the pipe at the ends of the reach. Smoke testing shall be used if the pipe slope exceeds one percent. Testing shall be performed before backfilling.

   a. Smoke-Testing: The reach of sewer in which the repair (or repairs) has been made shall be isolated by plugging the upstream and downstream manholes as necessary not only to temporarily eliminate the flow of water through it but also to prohibit the smoke from entering other reaches of sewer. Smoke shall then be introduced into one of the manholes and into the reach using smoke bombs and a blower especially designed or adapted for smoke testing sewers and acceptable to the Engineer. The repaired area shall then be observed for the emergence of smoke for a period of 15 minutes. If none can be seen, the repair will be deemed to have passed the test.

   b. Exfiltration-Testing: This method may be used only on sewers laid on grades less than 1.00 percent. Water, colored with a bright-colored dye acceptable for usage in testing, is introduced into the pipe so as to impose a 2-foot static head over the top of the pipe at the point of repair when the pipe in the lower manhole is plugged. Observations shall then be made by the Engineer to determine if leakage of the colored water occurs at the repair point. Care shall be taken, when this method is used, that:

      i. Not more than 4-feet of static head are induced on the main at the lower end of the reach, and

      ii. No back-up problems are caused in downhill service lines.

3.02 TELEVISION SURVEY

A. Television survey, including Preconstruction Survey and Post Construction Survey as indicated in Section 02753 - Television Survey, is required for all point repairs of storm sewers.

- END OF SECTION -

SECTION 02762

CHEMICAL ROOT TREATMENT

PART 1 -- GENERAL

1.01 SCOPE

A, The work specified in this Section includes all labor, materials, accessories, equipment, and tools necessary for chemical root treatment to kill tree roots in storm sewer pipe prior to chemical grouting and lining and to inhibit root regrowth without damaging the trees or the environment.

1.02 REFERENCE SPECIFICATIONS

A. Section 02751 - Preparatory Cleaning and Root Removal

B. Section 02763 - Chemical Grouting

1.03 SUBMITTALS

A. The Contractor shall submit the following in accordance with Section 01300 - Submittals:

1. A specimen product label showing the United States Environmental Protection Agency (EPA) Registration listing numbers of the product.

2. A specimen product label indicating EPA approval of the chemical root treatment for sanitary and storm sewers.

3. The manufacturer's recommended guidelines for proper mixing ratios for maximum daily usage of materials.

4. Material Safety Data Sheet (MSDS) for the product.

B. The above informational data shall clearly indicate compliance with the Specifications. The Contractor shall submit written exceptions to the specifications.

PART 2 -- PRODUCTS

2.01 GENERAL

A. The chemical root treatment material shall be EPA registered and labeled for use in sanitary and storm sewer lines and acceptable to the state and local government agencies having jurisdiction over its use.

2.02 ROOT TREATMENT MATERIAL

A. The chemical root treatment material shall be the formula RootX or equal. The formula shall be composed of two dry components which when mixed and come in contact with water

foam immediately. The active ingredient of the chemical treatment shall be Dichlobenil (minimum 100 ppm). Extra equipment such as a foam machine should not be required. This active ingredient for killing roots shall be an aquatically approved, non-systemic herbicide (Dichlobenil) which will kill roots at low concentrations but will not permanently affect parts of the plant distant from the treated roots. The active ingredient must be detoxified by natural chemical / biochemical processes following its use. The active ingredient, adjuvants, or either ingredient's by-products shall not adversely affect the environment or performance of wastewater treatment plants.

B. The active ingredient for inhibiting root regrowth (Dichlobenil) in sanitary and storm sewers shall inhibit root cell growth on contact, but shall not be transported so as to damage other portions of the plant. The material shall form a persistent chemical barrier suppressing the growth of root tips. The material shall be sufficiently stable under conditions of use to provide protection for twelve months, but shall be subject to decomposition in wastewater treatment plants without disturbing plant processes.

C. To improve transportation of the active ingredients into root tissues, the root treatment material shall contain emulsifiers to degrease root masses and remove fatty acids from root tissue.

PART 3 -- EXECUTION

3.01 GENERAL

A. All materials and mixing / application procedures for chemical root treatment shall conform to the latest industrial standards and requirements, and follow the recommendations of the manufacturer of the chemical root treatment material used.

3.02 PREPARATORY PROCEDURES

A. Root tips are the principal growth areas and are the surfaces most effectively penetrated by root treatment chemicals. When the root tips are damaged or removed by cleaning, chemical treatment will be less effective. Consequently, no cleaning is recommended in lines prior to chemical root treatment unless extensive grease, root masses or debris preclude proper application of the material.

3.03 FLOW CONTROL

A. Storm sewer service shall generally not be interrupted during root treatment. In situations where it is necessary, the Contractor shall block / bypass flow in accordance with Section 02750 - Stormwater Flow Control.

3.04 PERSONAL PROTECTIVE EQUIPMENT

A. The Contractor shall use appropriate protective clothing and equipment as recommended by the manufacturer during the use and handling of the material.

3.05 MIXING PROCEDURES

A. All materials shall be delivered to the site in undamaged, unopened containers bearing the manufacturer's label. Mixing of the root treatment material shall be done no more than 12 hours prior to use. The water used shall be clear and free of acid, alkali, oxidizing agents, oil, or other organic materials. Mixing water temperature shall be between 40 degrees F and 80 degrees Fahrenheit.

3.06 APPLICATION PROCEDURES

A. Where conditions permit, the volume of foam shall be sufficient to completely fill the air space above the flow, along the entire pipe reach. In all cases, the volume of foam delivered to the pipe line shall be sufficient to attach to and permeate all root masses.

B. The foam shall be applied sufficient pressure to penetrate a minimum of 5 feet into service connections.

3.07 DISCHARGE OF EFFLUENT

A. The chemical root treatment material is not removed from the sewer and will travel to the treatment plant. The active ingredient for inhibiting root regrowth shall attach to pipe surfaces in the line being treated or in route to the treatment plant. The amount of chemical root treatment material reaching the plant shall be negligible, and no special precautions shall be required. The Contractor shall follow the manufacturer's maximum use guidelines. Note: Large sewer trunk line directly upstream from the systems outfall may require special precautions.

3.08 ROOT REMOVAL / CHEMICAL GROUTING

A. Removal of dead roots, where required, should be postponed as long as possible after chemical root treatment to facilitate easier cleaning. Sewer line cleaning shall be scheduled no less that six weeks after root treatment.

B. Root removal shall be in accordance with Section 02751 - Preparatory Cleaning and Root Removal.

- END OF SECTION -

SECTION 02763

CHEMICAL GROUTING

PART 1 -- GENERAL

1.01 SCOPE

A. The work specified in this Section includes all labor, materials, accessories, equipment and tools necessary for chemical grouting, sealing, and air testing storm sewer pipe joints.

1.02 REFERENCE SPECIFICATIONS

A. Preparatory Cleaning and Root Removal

B. Television Survey

C. Chemical Root Treatment

1.03 GENERAL

A. Chemical Root Treatment

1. Prior to performing chemical grouting, the Contractor shall remove roots and clean the sewer in accordance with Section 02751 Preparatory Cleaning and Root Removal.

B. Leak Sealing

1. Sources, or possible sources, of infiltration within the storm sewer system, are to be sealed to eliminate infiltration. Locations of such work shall be as directed by the Owner/Engineer.

2. The application of the sealing grout within the pipe shall be by means of remote-controlled equipment designed to be positioned at the specific joint or crack to be sealed and to apply the grout under sufficient pressure for the grout to pass through the opening and fill voids outside the pipe as well as the opening in the pipe wall. Control of the device and review of the results shall be by operating the closed-circuit television camera and van-mounted monitor conforming to the requirements of Section 02752 Television Survey. The method of sealing used shall not damage the pipe or change pipe alignment, and the original cross sectional area shall not be permanently reduced or changed.

1.04 QUALIFICATIONS

A. The Qualifications of the Grouting Contractor shall be submitted. These Qualifications shall include detailed descriptions of the following:

1. Name, business address and telephone number of the Contractor.

2. Name(s) of all supervisory personnel to be directly involved with Grouting for this project.

3. The Contractor shall sign and date the information provided and certify that to the extent of his knowledge, the information is true and accurate, and that the supervisory personnel will be directly involved with and used on this project. Substitutions of personnel and/or methods will not be allowed without written authorization of the Engineer.

4. Specialty technicians shall be certified by the equipment manufacturer and/or its authorized representative. Certifications shall be submitted to the Engineer.

5. Upon request of Engineer, the Contractor shall provide references of previous project lists including his customer's name, address, and telephone number.

6. To be qualified, the Contractor shall have a minimum of three years previous experience in grouting.

PART 2 -- PRODUCTS

2.01 CHEMICAL JOINT SEALING MATERIALS

A. Chemical joint sealing materials used on this project shall be AV-118 Duriflex, AV-100 Acrylamide, or equal.

B. In those lines which had root removal performed, a chemical root inhibitor shall be added to the grout prior to sealing the joints. Contractor shall submit the chemical to be used for Engineer's approval prior to utilization.

PART 3 -- EXECUTION

3.01 JOINT SEALING EQUIPMENT

A. The basic equipment shall consist of a closed circuit television system, necessary chemical sealant containers, pumps, regulators, valves, hoses, etc., and joint sealing packers for the various sizes of sewer pipe. The packer shall be a cylindrical case of a size less than pipe size, with the cables at either end used to pull it through the line. The packer device shall be constructed in such a manner as to allow a restricted amount of flow at all times. Generally, the equipment shall be capable of performing the specified operations in lines where flows do not exceed the maximum line flows as specified in Section 02750 - Stormwater Flow Control. When the packer is inflated, two widely spaced annular bladders shall be formed, each having an elongated shape and producing an annular void around the center portion of the packer.

3.02 JOINT SEALING PROCEDURE

A. In the preparation and application of the sealing grout, the recommendations of the manufacturer of the grout materials shall be followed.

B. Joint sealing shall be accomplished by forcing chemical sealing materials into or through infiltration points by a system of pumps, hoses, and sealing packers. Jetting or driving pipes from the surface that could damage or cause undermining of the pipelines, will not be allowed. Excavating the pipe, which would disrupt traffic, undermine adjacent utilities and structures, will not be allowed. The packer shall be positioned over the area of infiltration by means of a metering device and the closed circuit television in the line. It is important that the procedure used by the Contractor for positioning the packer be accurate to avoid over-pulling the packer and thus not effectively sealing the point of infiltration. The packer sleeves shall then be expanded using precisely controlled pressures. The pneumatically expanded sleeve or elements shall seal against the inside periphery of the pipe to form a void area at the point of infiltration, now completely isolated from the remainder of the pipe line. In to this isolated area, sealant materials shall be pumped through the hose system at controlled pressures which are in excess of groundwater pressures. The pumping, metering, and packer device shall be integrated so that the proportions and quantities of materials can be regulated in accordance with the type and size of the leak being sealed. A maximum of 20 gallons of product shall be injected, and if a seal has not been established, the Owner/Engineer shall be notified.

3.03 TELEVISION SURVEY

A. Television survey, including Preconstruction Survey, Post Construction Survey, and Warranty Survey, as indicated in Section 02752 - Television Survey, is required for all grouted lines.

- END OF SECTION -

SECTION 02764

CURED-IN-PLACE SECTIONAL PIPE LINING

PART 1 -- GENERAL

1.01 SCOPE

A. The work specified in this section consists of rehabilitating existing storm sewer pipe by installing a resin impregnated fiberglass/polyester felt tube into an existing pipe to restore its structural and hydraulic integrity.

PART 2 -- PRODUCTS

2.01 GENERAL

A. The finished liner shall be fabricated from material as specified in this section which when cured will be chemically resistant to the corrosive effects of the stormwater and hydrogen sulfide. The cured-in-place sectional pipe shall be the New Life System as manufactured by Stephen's Technologies, Inc. or equal.

B. The contractor shall submit shop drawings, samples of materials, and design calculations to the Engineer for review.

2.02 LINER SIZING

A. The liner shall be fabricated to a size that when installed will neatly fit the internal circumference of the conduit to be repaired as specified by the Engineer.

B. The length and number of liners shall be that deemed necessary by the Engineer to effectively carry out the repairs. The Contractor shall verify the lengths in the field before cutting liner to length. In general, the minimum length shall be 10 ft. and cover a minimum of 12 inches on either side of the broken section of pipe.

2.03 LINER MATERIAL

A. The lining material shall be a fiberglass mating material and fully impregnated with an epoxy resin as specified.

B. The mixed components of the epoxy resin shall have the following properties:

Item		Criteria
1.	Solids Content	100% by weight
2.	Pot Life	90 minutes at 70°F
3.	Shelf Life	at least 1 year (sealed)
4.	Viscosity	18,000 cps (average at 70°F)
5.	Density	12 pounds per gallon (max.)

C. The cured epoxy resin material shall have the following properties:

Item	Test Value	Reference Standard
Tensile Strength	4,000 psi	ASTM D 638
Flexural Strength	5,000 psi	ASTM D 790
Modulus of Elasticity	400,000 psi	ASTM D 790

2.04 LINER DESIGN

A. The Contractor shall submit to the Engineer for review complete design calculations for the liner, signed and sealed by a professional Engineer registered in the State of Florida and certified by the manufacturer as to the compliance of his materials to the values used in the calculations. A safety factor of 2 shall be applied in the design calculation. The liner shall be designed in accordance with ASTM F 1216 and resist buckling in accordance with Appendix A (AWWA C 950). The buckling analysis shall account for the combination of dead load, live load, hydrostatic pressure and grout pressure, if any. For design purpose, the groundwater table shall be considered at grade elevations.

B. For partially deteriorated concrete circular pipe with ovality not greater than 2%, the following minimum liner thickness shall be provided:

Minimum CIPP Liner Thickness (mm)

	Depth of Pipe (feet)				
Diameter (inches)	**0-4**	**4-8**	**8-12**	**12-16**	**16-20**
6	3.0	3.0	3.0	-	-
8	3.0	4.5	4.5	4.5	6.0
10	4.5	4.5	4.5	6.0	6.0
12	4.5	4.5	6.0	6.0	6.0
15	4.5	6.0	6.0	7.5	7.5
18	6.0	7.5	7.5	9.0	9.0
24	7.5	9.0	10.5	10.5	12.0
30	9.0	10.5	12.0	13.5	15.0
36	10.5	13.5	15.0	16.5	18.0

C. The above minimum liner thickness are for pipe condition and materials with characteristics as specified. Bidders with materials with other characteristics must supply complete information in their bids of the values for ascertaining minimum thickness. The application of these minimum liner thickness shall be reviewed by the Engineer on a case-by-case basis.

D. Liner shall be neither accepted nor installed until design calculations are acceptable to the Engineer.

PART 3 -- EXECUTION

3.01 CLEANING PIPE LINES

A. Prior to any lining of a pipe so designated, it shall be the responsibility of the Contractor to remove internal deposits from the pipeline in accordance with Section 02751 - Preparatory Cleaning.

3.02 TELEVISION SURVEY

A. Television survey shall be performed in accordance with Section 02752 - Television Survey, including Preconstruction and Post Construction Surveys.

B. The interior of the pipeline shall be carefully surveyed to determine the locations and extent of any structural failures. The location of any conditions which may prevent proper installation of lining materials into the pipelines shall be noted so that these conditions can be corrected. A video tape and suitable log shall be kept and turned over to the Engineer.

C. For the sewer line with sectional cured-in-place liner installed, a variance for post-TV and tapes shall be allowed as follows:

1. The post-TV shall commence at the upstream manhole (downstream for reverse setups) and shall proceed at a maximum speed of 30 feet per minute until the repair is reached. No panning of defects or laterals needs to be done. Upon reaching the sectional liner, the Contractor shall stop and carefully pan the beginning and the end of the liner to show that the repair has been successfully completed. If a lateral connection has been lined over and reopened, the Contractor shall pan this opening and the lateral. The rest of the line shall be televised without stopping until the downstream manhole has been reached.

2. One log (pre-TV log) shall be furnished with a statement under the comments line as to the linear footage of the beginning of the sectional liner, the length of the liner, and the number of laterals reinstated (if any), and their location.

3.03 FLOW BYPASSING

A. The Contractor, when required, shall provide for the transfer of flow, through or around section or sections of pipe that are to be repaired. The proposed bypassing system shall be accepted in advance by the Engineer. The acceptance of the bypassing system in advance by the Engineer shall in no way relieve the Contractor of his responsibility and/or public liability. The flow bypassing shall be done in accordance with Section 02750 - Flow Control.

Note: If the repair can be made in a few hours, bypass pumping might not be required. The placement carriage shall be equipped with a bypass section to allow flow once liner is pressed into place.

3.04 LINE OBSTRUCTIONS

A. It shall be the responsibility of the Contractor to clear the line of obstruction. If survey reveals an obstruction that cannot be removed by conventional cleaning equipment, the Contractor shall make a point repair excavation in accordance with Section 02757 - Point

Repair of Storm Sewers, to uncover and remove or repair the obstruction. Such excavation shall be accepted in writing by the Engineer prior to the commencement of the work.

3.05 LINER INSTALLATION

A. Prior to liner installation, all active severe leaks which may affect the success of liner installation shall be stopped using chemical grout. The Contractor shall impregnate the liner with the 100 percent solids epoxy. Drop cloths, tarpaulins, and etc. shall be used to prevent epoxy material from contacting the adjacent ground. Place the liner on the placement carriage and maneuver carriage and liner into position with the use of a video camera. Force the liner against the inside wall of the damaged host pipe allowing epoxy resin to permeate into any cracks in the host pipe. Allow lines to cure for approximately 2 hours in accordance with the manufacturer's recommendations. Heat may be introduced to speed up curing time. Retract the placement carriage and remove from pipe.

3.06 ACCEPTANCE

A. The finished liner shall be continuous over the entire length of the installation. The liner shall be free from visual defects, damage, deflection, holes, delamination, uncured resin, and the like. There shall be no visible infiltration through the liner or from behind the liner.

3.07 CLEANUP

A. After the liner installation has been completed and accepted, the Contractor shall clean up the entire project area and return the ground cover to grade. All excess material and debris not incorporated into the permanent installation shall be disposed of by the Contractor.

3.08 WARRANTY

A. The liner shall be certified by the manufacturer for specified material properties for a particular job. The manufacturer warrants the liner to be free from defects in raw materials for one year from the date of acceptance. During the warranty period, any defects which affect the integrity or strength of the pipe shall be repaired at the Contractor's expense in a manner mutually agreed by the Owner and the Contractor.

- END OF SECTION -

SECTION 02765

INTERNAL JOINT SEAL

PART 1 -- GENERAL

1.01 WORK INCLUDED

A. The work specified in this section consists of furnishing all labor, material and equipment to seal storm pipe joints with various diameters by the man-entry internal joint sealing method. This repair will be done only on pipe that is otherwise in sound physical condition.

B. The contractor shall take all precautions necessary for the protection of all his personnel and meet all requirements of OSHA regulations and FDOT Specifications Section 7-1.5 (1999) for the Occupational Safety and Health Requirements associated with this work.

1,02 EQUIPMENT

A. The Contractor shall only use manufacturer recommended tools and equipment to install internal joint seals in accordance with manufacturer's instructions.

1.03 STORM WATER FLOW CONTROL

A. When the depth of flow in the storm pipe section being worked on is considered excessive that prevent successful joint seal installations, the flow shall be reduced to the allowable level by operation of pump stations, plugging or blocking the flow, or by pumping and bypassing the flow so that the pipe is accessible for man-entry joint seal installation in accordance with manufacturer's procedures.

B. The contractor shall prepare and submit his flow control plan to the Engineer for approval prior to commencement of the work. In any event, it shall be the Contractor's sole responsibility to properly maintain bypass flows without damage to the adjacent properties and / or environment.

PART 2 -- MATERIALS

2.01 FLEXIBLE SEALS

A. The material shall be a permanent, non-corrodible circular seal that can withstand an internal pipe pressure of 30 psi (70 feet) and external head pressures of up to 34 feet. The material shall be a Rubber Membrane for use as a joint liner material. The seal shall be manufactured by NPC, Inc. of Milford, New Hampshire, or equal.

2.02 STAINLESS STEEL BANDS AND HARDWARE

A. Circular stainless steel bands shall be used to hold the seals in place. These bands may be in two or three sections to allow for passage through the manholes. The bands shall be expanded against the seal and compress the seal to the pipe wall, and locked in place with wedges. The stainless steel bands, shims and bolts for securing the rubber membrane seal

across piping joints shall be Type 316 and manufactured in accordance with ASTM-A479.

B. All shims and wedges shall be 316 stainless steel material, as required for the 316 stainless steel bands.

2.03 CHEMICAL SEALING MATERIAL

A. Chemical sealing materials shall have the following properties: react quickly to form a permanent water tight seal; resultant seal shall be flexible and immune to the effects of wet/dry, freeze/thaw cycles; non-biodegradable and immune to the effects of acids, alkalis, and organics; component packaging and mixing compatible with field conditions and worker safety; cleanup can be accomplished without heavy use of flammable or hazardous chemicals; extraneous sealant left inside pipe shall be readily removable.

B. Chemical joint sealing material shall be acrylic resin type and shall be furnished with activators, initiators, inhibitors and any other materials recommended by the manufacturer for a complete grout system. Sealing grout shall be furnished in liquid form in standard manufacturer's containers. Sealing grout shall be AV-118 Duriflex or AV-100 and manufactured by Avanti International, Houston, Texas (1-800-877-2570), or equal.

C. Alternate sealing materials may be submitted to the Engineer for consideration.

2.04 LIQUID JOINT LUBRICANT

A. The liquid joint lubricant to assist in the installation of the seals and bands shall be a non-toxic, vegetable-based lubricating gel. This gel must not decompose or deteriorate for a minimum storage period of two years. It must have a soft pasty consistency suitable for use in temperatures between 0 and 120 degrees F. It must not have any deteriorating effect on rubber gaskets, must not impart taste or odor to water, or have an objectionable odor. This gel must not support the growth of bacteria or contain any petroleum-based oil or grease.

PART 3 -- EXECUTION

3.01 INSTALLATION

A. The flexible seals to be used in this contract shall be individually sealed in plastic bags and packed in a manner that will not damage or deform them.

B. Seals shall be stored in a cool, dry environment and shall not be allowed to remain in direct sunlight.

C. Prior to fitting, each seal to be used inside the pipe shall be given a thorough visual examination. Particular attention shall be placed on the ribbed sections of the seal.

D. The pipe joint section that will support the seals shall be thoroughly cleaned. Debris or deposits shall be removed from the pipe walls by hand brushing and taken away by hydraulic vacuum. Subaqueous power tools shall be used if any hard scale or stubborn debris remains after hand-brushing. All joint gaps shall be fully cleaned of debris before any installation is performed.

E. Any surface imperfections shall be removed by grinding or scraping. Any deep imperfections shall be filled by properly applying the approved joint filler. The entire surface where the seal shall be placed must be smooth.

F. The seal area shall be properly pre-marked in order to clearly define the seal position.

G. Each seal shall have the joint number indicated so documentation can be provided for each joint repaired.

H. The internal Joint seal shall be assembled and installed in conformance with the manufacturers instructions/recommendations.

3.02 FINAL ACCEPTANCE

A. Upon final acceptance of the project, the contractor shall provide to the Engineer the manufacturer's warranty on material for one year from the date of acceptance. During the warranty period, any defects which affect the integrity of the pipe or seals shall be repaired at the contractor's expense.

- END OF SECTION -

SECTION 02766

SPIRAL WOUND PIPE LINER

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall utilize this liner system only with the express approval of the Owner based upon the submittal of complete qualifications and past experience with spiral wound pipe lining installations.

PART 2 -- PRODUCT

2.01 SPIRAL WOUND PIPE LINER

A. Spiral wound pipe liner shall consist of coils of profile strips that are wound into a host pipe helically, after which a cementious grout is injected into the annular space between the liner and the host pipe, forming a rigid composite structure.

1. Polyvinyl Chloride: Polyvinyl chloride spiral wound pipe liner shall meet the requirements of ASTM F 1697 or ASTM F 1698 and shall have a minimum cell classification of 12454b.

PART 3 -- EXECUTION

3.01 GENERAL

A. Install the liner using spiral winding. Seal or grout the annular space between the interior of the host pipe and the exterior of the liner according to the liner manufacturer's written instructions.

B. Prior to installing the pipe liner, inspect the host pipe and ensure that it is clean, dry and stable. Inspect the host pipe by means of closed circuit television. The closed circuit television inspection may be augmented by a visual inspection in which persons enter a host pipe to inspect it, at no additional cost to the Owner. Obtain written approval from the Engineer prior to allowing persons to enter a host pipe. Furnish all equipment necessary to inspect, remove silt and other debris, and dewater the host pipe to the satisfaction of the Engineer. Seal cracks and joints using an approved chemical grout. Place flowable fill as directed by the Engineer to maintain the stability of the host pipe.

C. Install the pipe liner in accordance with ASTM F 1698 or ASTM F 1741.

3.02 ACCEPTANCE

A. Inspect the complete rehabilitation by means of closed circuit television. Obtain written approval from the Engineer prior to allowing persons to enter a host pipe. Provide the Engineer with videos of all preliminary and final inspections.

- END OF SECTION -

SECTION 02768

SLIP LINING PIPE SYSTEM

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall submit to the Engineer for approval, complete design calculations for the pipe. The calculations shall be signed and sealed by a registered professional Engineer. The criteria for pipe design shall be an H-20 live load and the overburden as shown on the plans (associated with the specific work order), using a dry soil weight of 120 pounds per cubic foot. Design water table elevation shall be verified. The liner design shall utilize the water table level which necessitates the thicker liner. The minimum lifetime shall be 50 years. Pipe liner side support shall be considered as if provided by soil pressure against the liner pipe. The existing pipe shall not be considered as providing any structural support. Modulus of soil reaction for liner pipe calculations shall be considered 1,000 psi. Pipe shall also be designed to withstand all forces imposed by grouting the annular space between the liner and existing pipe lines.

B. The minimum stiffness for all pipes liners shall be at least 36 psi and shall be greater when depth of cover, live load and/or depth of groundwater conditions require.

C. All slip lining pipe to be utilized on this project shall have been manufactured (within six months of installation) for this project. A certification to this effect shall be provided by the pipe manufacturer prior to pipe installation.

D. Pipe shall be as manufactured by: Hobas Pipe U.S.A., Inc., Houston, TX 77073, or approved equal.

PART 2 --PRODUCT

2.01 FIBERGLASS PIPE

A. Glass-fiber reinforced thermosetting-resin pressure pipe shall be either glass-fiber-reinforced thermosetting-resin pipe (RTRP) or reinforced plastic mortar pipe (RPMP) meeting the standards of AWWA C 950, Appendix A for Design Analysis, and ASTM D-3262, as modified herein. Pipe joints shall be gasketed bell and spigot type with EPDM or a neoprene sealing ring. Bell and spigot may be of the external type. No reduction of internal diameter will be acceptable, except as shown in the details for special cases. Nominal full length pipe laying length shall be twenty feet. Pipe shall have an inner corrosion liner of either thermosetting or thermoplastic material with minimum .05 inch thickness. This liner shall not be considered as providing any structural strength to the pipe. Outside of filament wound (RTRP) pipe shall have a resin rich coating with ultraviolet screening agent and a minimum thickness of .02 inch; while plastic mortar pipe (RPMP) shall have a sand rich outer layer of at least 0.03 inches for UV protection. Resins may not contain pigments or dyes.

B. Pipe shall be routine, quality assurance tested by the manufacturer and certified copies of the results shall be submitted for approval. No pipe shall be installed which is not from a lot of pipe whose test results have been accepted as satisfactory by the Engineer. From each nominal lot of 100 lengths of pipe, a random two percent sampling shall be made and the selected sections shall be tested in accordance with the requirements of ASTM D-3262. If either section fails, an additional three section shall be randomly selected and tested. If an aggregate of two of the test sections fail to meet the Standard's and this Section's requirements, the Engineer may, at his option, either require additional testing or, alternately reject the entire lot of pipe. Failure of any one of any additional sections tested shall render the entire lot as unacceptable for installation.

C. Pipe Stiffness shall be tested per ASTM Standard D 2412 "Test Method For Determination of External Loading Characteristics of Plastic Pipe By Parallel-Plate Loading." Liner pipe and joints shall be designed to properly transmit and withstand all jacking, tension or grouting pressure loads imposed during construction.

D. Each shipment of pipe shall be accompanied by an Affidavit of Compliance to ASTM D-3262 and D-2412 and these Specifications, signed by a responsible officer of the company.

2.02 FIBERGLASS PIPE CLOSURES

A. Closure couplings for pipe closure shall consist of a fiberglass collar with a minimum of two (2) gaskets confined in grooves in the inside surfaces near the ends. The couplings joints shall seal by compressing the gaskets between the outside surface of the liner pipe and the inside of the collar. The gasket should be of the type which allow sliding of the coupling with equal forces in both directions. The minimum coupling width shall be 10-inches. The closure coupling shall be as manufactured by: Hobas Pipe U.S.A., Inc., Houston, TX 77073, or approved equal.

2.03 FIBERGLASS

A. The mitered joints used to construct the nominal diameter fittings shall be fabricated by laying-up the exterior of the pipe only. A sealing lay-up (explained below) must be applied to the interior of the miter.

1. Materials

a. Isophthalic polyester resin with a 3 to 4 percent ultimate flexural elongation to break suitable for hand layup work.

b. Curing agent (catalyst) for above resin.

c. 1.5 oz./ft^2. chopped strand mat, cut to specified width.

d. 24 oz./yd^2 woven roving, cut to specified width.

e. Milled fibers and fumed silica to make gap filler resin putty.

2. General Procedures

   a. Insure that surface area of pipe to be bonded is completely dry.

   b. Thoroughly clean area to be bonded to remove all dust, grease or other contaminating materials. Grind through surface (pure resin liner (interior) or the sand layer (exterior), to the glass layer.

   c. Surfaces should again be cleaned to remove all dust from the surface to be bonded.

   d. Fill gaps with resin putty (property catalyzed) and allow to cool.

   e. Assure surface to be bonded is properly ground (full width), dry and clean.

   f. Apply three or five ply layup "sandwich", to the specified width, 380 degrees around the joint to be sealed. (Note: Glass fabrics must be wet-out with properly catalyzed resin.) Roll out flat, removing all air, etc. prior to gel or the resin.

   g. Allow layup to cool until it is no longer hot to the touch. Repeat previous step until all 3 or 5-ply "sandwich" layups have been applied.

   h. After all layups have been applied, paint all ground surfaces (not covered by layup) with catalyzed resin.

   i. Allow layups to cure at least 24 hours (preferably 48 hours) prior to exposure to water or new stresses.

3. General Criteria

   a. All layups shall begin and end with a mat ply.

   b. All structural layups shall be constructed with alternating mat-woven roving construction.

   c. Interior layup seals may be all mat.

   d. Above surface preparation is applicable to both structural and sealing layups.

   e. All structural layups must be bonded to the glass layer in the pipe.

4. Structural Layup

"Sandwich" #1	"Sandwich" #2	"Sandwich" #3	Sealing Layup
8" Wide mat	12" Wide mat	16" Wide mat	8" Wide mat
7" Wide woven	10" Wide woven	15" Wide woven	8" Wide mat
8" Wide Mat	12" Wide mat	16" Wide mat	8" Wide mat
7" Wide woven	10" Wide woven	15" Wide woven	
8" Wide mat	12" Wide mat	16" Wide mat	

PART 3 -- EXECUTION

3.01 PIPE SURFACE PREPARATION FOR SLIP LINING

A. Preparation of the interior surface shall be accomplished by a thorough high pressure water-jet or mechanical type cleaning. The existing pipe contains rocks and concrete in some places and will require mechanical cleaning. The pipe shall be left free of all loose sand, rock, or other deleterious materials. Any roots in the pipe shall be either removed or cut off flush with the interior surface. Any protruding steel reinforcement shall be torch cut flush with the interior surface. (Provide a well ventilated, safe atmosphere which will not ignite or explode during any sparking or flame operations. Test atmosphere frequently to assure a suitable atmosphere.) The ledges formed by erosion of the pipe interior shall be cut back as shown on the Plans to provide a smoothly curved molded surface for the liner. Grouting shall be used where necessary to smooth the transition area. However, such grouting shall be utilized only with the prior knowledge and approval of the Engineer. With prior approval of the Engineer, bonding agents of an approved type may be utilized in the grout to improve adherence. In no case may grouting decrease the pipe internal diameter as measured at the point of grout application to less than the original diameter of pipe. Any protruding pieces of concrete, dropped joints or broken pipe shall be subjected to point or spot repair so that the pipe is left in a clean smooth condition in all respects ready for lining. The pipe line shall be sufficiently cleaned to not inhibit or prevent slip lining, at the Contractor's sole expense.

B. The prepared pipe shall be inspected by the Engineer for cleanliness and smoothness before the Contractor is given approval to line.

3.02 INSTALLATION (ACCESS) PITS

A. Access pits required for the installation of the pipe's slip liner and elbows, annular space grouting or other activity associated with work that requires access to the interior of the pipe shall be made from pits designed and constructed so as to prevent the routine draining of groundwater or stormwater into the open pipe.

B. The Contractor shall submit for approval his proposed method(s) of constructing these pits to accomplish the stated isolation requirements. Pit shall be constructed to provide a virtually impermeable shield to the flow of water into or out of the pit. In addition, the

walls shall meet all of the requirements for sheeting and shoring and the Florida Trench Safety Act. Similarly, the floors of the pits, whether constructed at the pipes' centerline or invert, shall also be virtually impermeable, bonded to the pipe and be structurally safe and sound.

C. It is intended that if the Contractor's work method requires maintaining a lowered groundwater table, that the water be pumped from outside the installation pit and shall be at his sole expense.

D. Design of each pit shall accommodate all buried utilities encountered. Each utility feature shall either be protected and maintained in service or, with the utility Owner's permission and approval, relocated away from the pit, all at the Contractor's sole expense.

E. All costs associated with installation pits, including the removal of the sheeting, shall be included in the prices bid.

F. All installation pits not being actively worked upon shall be plated over during all non-active work periods, to promote maintenance of traffic, safety and odor control.

G. It is anticipated that temporary measurement pits be excavated at locations of elbows (requiring special fittings to be installed) in advance of the lining work, so that the pipeline can be measured for necessary custom fitting, design and fabrication. The pipe shall not be broken open for the measurements. However, if the pipe is cored (to determine wall thickness and inside diameter at the existing elbow), the cored hole shall be suitably sealed to prevent the escape of water before the slip lining pit is constructed. After taking the elbow measurements, the Contractor may either immediately backfill and temporarily pave the measurement pit or plate over the pit to temporarily restore the traveled surface. The Contractor may at his option measure the elbows internally by entering the pipe from an existing manhole.

H. The walls of all plated pits, whether installation pits or temporary measurement pits, shall be designed and constructed to safely maintain the pit and to bear the traffic load passing over it.

I. All installation pits shall be designed by a Professional Engineer, licensed and currently registered in the State of Florida. Submitted designs and details shall bear his seal and signature. Design calculations shall show all loads utilized and all factors applicable to proper design and analysis of the pits.

3.03 SLIP LINING METHOD

A. General

1. Liners shall be installed in accordance with the liner manufacturer's recommendations.

2. Prior to starting the liner insertion, the Contractor must verify that the existing pipe diameter is sufficient by pulling a mandrel through the line.

3. To the maximum extent practical, the Contractor shall utilize full length sections of liner pipe to minimize the number of joints. However, it is recognized that shorter sections will be utilized to negotiate past minor deflection elbows and to accomplish insertions in locations with unusual conditions.

4. Liner pipe shall be held in position within the host pipe so that unintentional "float-up", creation of high or low spots, or misalignment of liner do not occur. Particular care shall be taken during grouting operations. If wood blocking is used to position the liner, it shall be securely banded to the pipe. The Contractor shall attach sufficient blocks to prevent sagging when the liner is filled with water during the grouting process. Clearance shall be left at the top of the pipe to preclude jamming of the liner due to wall thickness variations in the eroded areas of the existing pipe.

B. Slip Lining Through Manholes

1. It is intended that, to the maximum extent practical, pipe liners be extended through manholes so that the channel sections of these manholes shall also be lined. Access connections shall be made at all locations passing through manholes.

2. At manhole locations without any branch pipe line connections, the liner pipe shall remain intact.

3. At manhole locations containing branch pipe line connections, the Contractor shall install the liner before making the connections. Openings in the liner shall be made in such manner to leave a clean cut and neat clean appearance by an approved method. The method used shall insure a positive seal to prevent the intrusion of any grout into the system during the grouting process.

C. Grouting the Annular Space

1. General

a. As it is generally not practical to hold the slip liner pipe coaxial with the concrete host pipe, the liner shall, therefore, either be installed and kept at the invert or "floated" up to the inside top of the host pipe, utilizing various grouting techniques. The Contractor will be permitted to choose which vertical placement method he will utilize, provided he submits a detailed plan.

b. If the Contractor chooses to keep the liner down on the pipe invert, he must choose between either utilizing a special, low specific gravity grout; grouting in stages with a denser grout, or use of some other approved means to prevent creating sufficient buoyancy to float the liner.

c. For whatever method and system the Contractor submits for approval, he must demonstrate that it has been utilized successfully in similar applications, that the personnel or subcontractor to perform the work has had successful past experience with this method, equipment and grout;

and it shall be verified by the pipe manufacturer and that the method meets all of their recommendations.

2. Liner Replacement

   a. It shall be the Contractor's responsibility to utilize a system which produces an installed liner that runs on a vertically constant grade from one manhole to the next, without undulations along its length.

   b. All costs in correcting changes to the liner invert positioning shall be borne solely by the Contractor.

3. Grouting Plan

   a. When grouting the annulus between liner and host pipe, including liners within manholes, the Contractor shall make sure that all gaps are filled to support the liner and provide long term stability. He shall also, by filling the liner with water or other means, exercise caution to see that grout pressure does not float or collapse the liner. Release of water from a filled section of liner shall be accomplished so as not to create a partial vacuum which might collapse the liner or pull it away from the grout. Grouting with lightweight grouts may require additional efforts to keep a dry or pumped down annulus to accomplish total filling of the void. The Contractor shall submit his proposed method for approval to provide routine quality assurance verification that all voids in the annular space have been filled with grout. The grouting pressures utilized shall not exceed 5 psi or that recommended by the liner pipe manufacturer.

   b. The Contractor shall engage the services of an approved testing laboratory to certify that the proposed materials and methods comply with these specifications. All proposals shall be submitted to the Engineer for approval.

   c. Prior to actual construction, the Contractor shall submit six test cylinders made of grout at the slump he intends to use. These will be tested, in pairs, at 3, 7 and 28 days, and must have minimum compressive strengths of 1800 psi at 28 days for conventional grouts and 300 psi at 28 days for lightweight grouts. For lightweight grouts, in lieu of one and three days compressive tests, test as per ASTM C-403 at 24 hours. If directed, the Contractor shall make test cylinders from grout being used on the job.

   d. An overall schedule of grouting plan shall be submitted for approval, with periodic updates made at job meetings.

   e. The Contractor shall submit plans, including the proposed number and location of vents relative to liner pipe diameter and stiffness and the depth of flow in the pipeline during the grouting operation.

4. Injection Procedure and Pressure

   a. The gauged pumping pressure shall not exceed the liner pipe manufacturer's approved recommendations. Pumping equipment shall be of a size sufficient to inject grout at a volume, velocity and pressure compatible with the size of the annular space and degree of host pipe corrosion. Once grouting operations begin, grouting shall proceed uninterrupted from bulkhead to bulkhead. Grout placement shall not be terminated until the following have been met, unless otherwise approved by the Engineer: a) The estimated annular volume of grout has been injected; b) The exhausted grout at each vent is not less than eighty-five percent of the density of freshly injected grout; c) The exhausted grout viscosity is not less than eighty-five percent of the original viscosity of the freshly injected grout; and d) When recommended by the grout installer. Grout pressure gauge and recorder shall be installed immediately adjacent to each injection port. During grouting operations, the recorder shall continuously record, on paper with ink, the actual grouting pressure versus time. The gauge shall conform to an accuracy of ± 3.45 kPa (0.5 psi). The range of the gauge shall not be more than 100 percent greater than the design grout pressure. Pressure gauges shall be instrument oil filled and attached to a saddle-type diaphragm seal (gauge saver) to prevent clogging with grout. All gauges shall be certified and calibrated in accordance with ANSI B40, Grade 2A. As a minimum, the grout pressure recordings shall be identified with a date, batch, and time of day grouting was performed and shall be submitted to the Engineer at the end of the work day that grouting was performed.

5. Onsite Testing

   a. The Contractor shall provide all equipment and personnel necessary to perform the following tests for each batch of grout in the presence of the Engineer: a) Density per ASTM C 138 or by other methods as approved by the Engineer; b) Viscosity per ASTM C 939. Grout density that exceeds ± 48 kilograms per cubic meter (3 pounds per cubic foot) of the design density will be rejected.

6. Test Section

   a. The Contractor will be required to perform a test on each type of grout and grout system proposed to be used. The test section to be grouted and the size of the annular space considered for each type of grout system shall be determined by the Contractor and approved by the Engineer.

7. Extended Pipe Liners in Manholes

   a. Where liners are extended through manholes, the Contractor shall grout the annular space between the liner and the formed channel to provide the liner with a fully supported bed.

- END OF SECTION -

SECTION 02934

SODDING

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall provide all labor, materials, and equipment necessary for complete sodding of areas affected by construction. This shall include, but not be limited to, liming, fertilizing, sodding, necessary barriers, tests, and all incidentals to make the Work complete.

1.02 WORK INCLUDED

A. Testing of topsoil

B. Raking and leveling of topsoil as required for sodding

C. Liming and fertilizing of topsoil

D. Laying and rolling of sod

E. Maintaining sod

1.03 SUBMITTALS

A. Submit product source and information sheets in accordance with Section 01300 entitled "Submittals".

PART 2 -- PRODUCTS

2.01 MATERIALS

A. Fertilizer

1. Fertilizer shall be commercial fertilizer as manufactured by International Chemical Company, or approved equal.

2. Said fertilizer shall have a 10-20-6 N.P.K. content and contain a minimum of 60 percent of organic material.

3. Fertilizer shall be delivered at the site in the original sealed containers.

B. Sod

1. All sod that is removed or damaged due to the Contractor's Work shall be replaced with the same as was removed or damaged unless otherwise noted on the drawings.

2. The sod shall be as grown by a certified turf nursery, and Contractor shall inform the Owner as to the source of the sod to be utilized prior to ordering and delivery of sod.

3. Floratam St. Augustine turf will be classified as "Number 1/Premium" turf grass per industry standards.

4. Floratam St. Augustine deliveries shall have a "cut sheet" on company letterhead specifying date, field, and time of harvest.

5. Floratam St. Augustine will be machine cut to a uniform soil thickness of approximately 1.5 inches, plus or minus 0.25 inches at the time of harvesting.

6. Floratam St. Augustine shall be mowed to a height of 2 to 3 inches before harvesting.

7. Floratam St. Augustine shall be strong enough so each section can be picked up and handled without damaging turf pieces.

8. Cutting dimensions will be 16 inch x 24 inch slabs or 48inch x 70 feet long roll.

9. Installation should be completed within 6 hours of delivery.

10. Bahia grass turf shall be free of disease, nematodes, and soil borne insects and shall be laid in uniform sized sections. Clumps of Bahia will not be accepted.

11. After the preparation of the areas to be sodded, supply and install sod which is equal to or approved as equal to sod which existed prior to construction. As a minimum, Type No. 1 sod composed of grasses grown from a Bahia Seed mixture shall be used for stabilization of final grade.

12. All sod installed on slopes/banks shall be pinned in place immediately upon installation.

PART 3 -- EXECUTION

3.01 INSTALLATION

A. These areas shall be fine graded to achieve the finished subgrade after compaction which shall be obtained by rolling, dragging, or by an approved method which obtains an equivalent compaction to that produced by a hand roller weighing from 75 to 100 pounds per foot of width. All depressions caused by settlement or rolling shall be filled with additional existing or furnished topsoil and regraded and prepared as specified above until it presents a reasonably smooth and even finish at the required sod sub-grade.

B. All sod furnished shall be living sod containing at least 70 percent of thickly matter grasses as specified and shall be free from noxious weeds, disease and insects.

C. No broken pads or torn or uneven ends will be accepted. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when

suspended vertically with a firm grasp on the upper 10 percent of the section. Sod shall not be harvested when its moisture content (excessively wet or dry) may adversely affect its survival.

D. Sod shall be harvested and delivered within a period of 36 hours. Sod shall be installed within 6 hours of delivery. Sod not harvested, delivered and/or installed within these time frames shall be subject to inspection and rejection by Owner or Engineer and shall be removed from the site. A fresh sod supply shall then be furnished at no extra cost to Owner.

E. The topsoil shall not be moist at time of installation; however, it shall contain sufficient moisture so as not be powdery or dusty, both as determined by the supplier's representative.

F. The overlapping of existing lawn with new sod along limit of work lines will not be permitted. Sod shall be laid in strips, edge to edge, with the lateral joints staggered. All minor or unavoidable openings in the sod shall be closed with sod plugs or with topsoil, as directed by Owner or Engineer. However, sod laid with joints determined to be too large shall be lifted and relaid as specified herein at no extra cost to Owner.

G. Immediately after the sod is laid, the sod shall be watered thoroughly by hand or mechanical sprinkling until the sod and at least 2 inches of the top soil bed has been thoroughly moistened. Watering shall continue on a routine basis as needed to establish sod.

H. Contractor shall be responsible to furnish his own supply of water to the site at no extra cost. If possible, Owner shall furnish Contractor, upon request, with a source and supply of water. Contractor shall pay for and obtain a temporary construction meter. Owner will pay for water, if it is available from Owner's system. If Owner's water supply is not available or not functioning, Contractor shall be responsible to furnish adequate supplies at his own cost. All work injured or damaged due to the lack of, or the use of too much water, shall be Contractor's responsibility to correct.

3.02 MAINTENANCE

A. Maintain the entire sodded areas until well established and up to final acceptance at the completion of the Contract. Final completion will not be granted until sod is well established. Maintenance shall include watering as specified, weeding, and removal of stones which may appear. All bare or dead spots which become apparent shall be properly prepared, limed, fertilized, and resodded at Contractor's expense as many times as necessary to secure a good growth. In the event that the sod installation is not accepted by Owner, contractor shall replace sod at his own expense. Sodded areas shall be maintained and cut by Contractor until final acceptance of the project.

B. Contractor shall take whatever measures are necessary to protect the sod while it is developing. These measures shall include furnishing of warning signs, barriers, or any other necessary measures of protection.

- END OF SECTION -

SECTION 03305

CONCRETE AND GROUT

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall furnish all materials for concrete in accordance with the provisions of this Section and shall form, mix, place, cure, repair, finish, and do all other work as required to produce finished concrete, all in accordance with the requirements of the Contract Documents.

B. The following types of concrete shall be covered in this Section:

1. Structure Concrete: Concrete to be used in all cases except where noted otherwise in Contract Documents.

2. Sitework Concrete: Concrete to be used for curbs, gutters, catch basins, sidewalks, cart paths, fence and guard post embedment, and all other concrete appurtenant to electrical facilities unless otherwise shown or noted on the Drawings associated with any Work Order.

C. The following types of grout are covered in this Section:

1. Non-Shrink Grout: This type of grout shall be used wherever grout is called for in the Contract Documents, unless another type is specifically referenced.

2. Epoxy Grout: This type of grout shall be used for grouting reinforcement steel into existing concrete.

1.02 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Without limiting the generality of other requirements of these specifications, all work specified herein shall conform to or exceed the requirements of the South Florida Building Code and the applicable requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of this Section.

1. ACI 318 - Building Code Requirements of Reinforced Concrete.

2. CRSI - Manual of Standard Practice.

1.03 SUBMITTALS

A. Mix Designs: Prior to beginning the Work, the Contractor shall submit to the Owner, for review, proposed concrete mix designs which shall show the proportions and gradations of all materials proposed for each class and type of concrete specified herein in accordance with Section 01300 - Submittals. all costs related to such mix design shall be borne by the Contractor.

B. Delivery Tickets: Where ready-mix concrete is used, the Contractor shall provide weighmaster delivery tickets at the time of delivery of each load of concrete. Each certificate shall show the public weighmaster's signature, and the total quantities, by weight of cement, sand, each class of aggregate, admixtures, and the amounts of water in the aggregate and added at the batching plant as well as the amount of water allowed to be added at the site for the specific design mix. Each certificate shall, in addition, state the mix number, total yield in cubic yards, and the time of day, to the nearest minute, corresponding to when the batch was dispatched, when it left the plant, when it arrived at the job, the time that unloading began, and the time that unloading was finished.

C. The Contractor shall furnish shop bending diagrams, placing lists, and Drawings of all reinforcing steel prior to fabrication in accordance with the requirements of Section 01300 - Submittals.

D. The following types of grout are covered in this Section:

1. Nonshrink Grout: This type of grout shall be used wherever grout is called for in the Contract Documents, unless another type is specifically referenced.

2. Epoxy Grout: This type of grout shall be used for grouting reinforcement steel into existing concrete, and for grouting beneath equipment base and sole plates.

1.04 QUALITY ASSURANCE

A. Tests on component materials and for compressive strength and shrinkage of concrete will be performed as specified herein. Test for determining slump will be in accordance with the requirements of ASTM C 143.

B. The cost of all laboratory tests on cement, aggregates, and concrete, will be borne by the Owner. However, the Contractor shall be charged for the cost of any additional tests and investigation on work performed which does not meet the specifications.

C. Concrete for testing shall be supplied by the Contractor at no cost to the Owner, and the Contractor shall provide assistance to the Owner in obtaining samples. The Contractor shall dispose of and clean up all excess material.

D. Field Compression Tests

1. Compression test specimens shall be taken during construction from the first placement of each class of concrete specified herein and at intervals thereafter as selected by the Owner to ensure continued compliance with these specifications. At least one set of test specimens shall be made for each 50 yards of concrete placed. Each set of test specimens shall be a minimum of 4 cylinders.

2. Compression test specimens for concrete shall be made in accordance with ASTM C 31. Specimens shall be 6-inch diameter by 12-inch high cylinders.

3. Compression tests shall be performed in accordance with ASTM C 39. One test cylinder will be tested at 7 days and 2 at 28 days. The remaining cylinder will be held to verify test results, if needed.

PART 2 -- PRODUCTS

2.01 CONCRETE MATERIALS

A. Materials shall be delivered, stored, and handled so as to prevent damage by water or breakage. Only one brand of cement shall be used. Cement reclaimed from cleaning bags or leaking containers shall not be used. All cement shall be used in the sequence of receipt of shipments.

B. All materials furnished for the work shall comply with the requirements of ACI 301, as applicable.

C. Storage of materials shall conform to the requirements of ACI 301.

D. Materials for concrete shall conform to the following requirements:

1. Cement shall be standard brand portland cement conforming to ASTM C 150. Type 1.

2. Water shall be potable, clean, and free from objectionable quantities of silty organic matter, alkali, salts and other impurities.

3. Aggregates shall be obtained from pits acceptable to the Owner, shall be non-reactive, and shall conform to the SFBC and ASTM C 33. Maximum size of coarse aggregate shall be as specified in Paragraph 2.05B.

4. Ready-mix concrete shall conform to the requirements of ASTM C 94.

5. Air-entraining agent meeting the requirements of ASTM C 260, shall be used. Sufficient air-entraining agent shall be used to provide a total air content of 3 to 5 percent. The Owner reserves the right, at any time, to sample and test the air-entraining agent received on the job by the Contractor. The air-entraining agent shall be added to the batch in a portion of the mixing water. The solution shall be batched by means of a mechanical batcher capable of accurate measurement.

6. Admixtures: Water reducing and retarding admixture shall be added and measured as recommended by the manufacturer. The addition of the admixture shall be separate from the air entraining admixture. The addition of the admixture shall be completed within one minute after addition of water to the cement has been completed, or prior to the beginning of the last three-quarters of the required mixing, whichever occurs first. Water reducing and set retarding admixtures shall be in conformance with ASTM C 494, Type D.

2.02 CURING MATERIALS

A. Materials for curing concrete as specified herein shall be MB 429 as manufactured by Masterbuilders, or equal. The curing compound shall contain a fugitive dye so that areas of application will be readily distinguishable.

2.03 NON-WATERSTOP JOINT MATERIALS

A. Materials for non-waterstop joints in concrete shall conform to the following requirements:

1. Preformed joint filler shall be a non-extruding, resilient, bituminous type conforming to the requirements of ASTM D 1751.

2. Elastomeric joint sealer shall be a single component, pour grade, polyurethane sealant meeting FS TT-S-230A, Type 1 Materials shall attain Shore A Hardness of 40-45.

B. Joint Cleaner: Joint cleaner shall be as recommended by sealant caulking compound manufacturer.

C. Joint Primer: Joint primer shall be as recommended by sealant manufacturer.

2.04 REINFORCING STEEL

A. All reinforcing steel for all reinforced concrete construction shall conform to the following requirements:

1. Bar reinforcement shall conform to the requirements of ASTM A 615 for Grade 60 Billet Steel Reinforcement with supplementary requirement S-1, and shall be manufactured in the United States.

2. Welded wire fabric reinforcement shall conform to the requirements of ASTM A 185. All welded wire fabric reinforcement shall be galvanized.

2.05 CONCRETE DESIGN REQUIREMENTS

A. General: Concrete shall be composed of cement, admixtures, aggregates and water. These materials shall be of the quantities specified. In general, the mix shall be designed to produce a concrete capable of being deposited so as to obtain maximum density and minimum shrinkage and, where deposited in forms, to have good consolidation properties and maximum smoothness of surface. All changes shall be subject to review by the Owner.

B. Water-Cement Ratio and Compressive Strength: The minimum compressive strength and cement content shall be not less than specified in the following tabulation.

Aggregate Type of Work	Min. 28-Day Compressive Strength per cu yd Ratio (psi)	Max. Aggregate Size (in.)	Min. Cement (sacks)	Max. W/C (by wt).
Structural Concrete:				
All reinforced concrete unless noted otherwise below	4,000 (Class A)	3/4	6.0	0.45
Sitework Concrete:				
Concrete fill, pavement, curbs and sidewalks.	3,000 (Class B)	3/4	5.5	0.50
Seal Concrete:				
Concrete placed under water, using the tremie method.	5,000	3/4	7.0	0.45

Note: One sack of cement equals 94 lbs.

2.06 CONSISTENCY

A. The consistency of the concrete in successive batches shall be determined by slump tests in accordance with ASTM C 143. The slumps shall be as 3 inches, plus or minus 1 inch.

2.07 READY-MIXED CONCRETE

A. Ready-mixed concrete shall conform to meeting the requirements as to materials, batching, mixing, transporting, and placing as specified herein and in accordance with ASTM C 94.

B. Ready-mixed concrete shall be delivered to the site of the work, and discharge shall be completed within one and one half hour after the addition of the cement to the aggregates or before the drum has been revolved 250 revolutions, whichever is first. In hot weather, or under conditions contributing to quick stiffening of the concrete, or when the temperature of the concrete is 85 degrees F or above, the time between the introduction of the cement to the aggregates and discharge shall not exceed 60 minutes.

2.08 NON-SHRINK GROUT

A. Non-shrink grout shall be a prepackaged, inorganic, nongasliberating, nonmetallic, cement-based grout requiring only the addition of water. Manufacturer's instructions shall be printed on each bag or other container in which the materials are packaged. The specific formulation for each class of non-shrink grout specified herein shall be that recommended by the manufacturer for the particular application.

B. Non-shrink grouts shall have a minimum 28 day compressive strength of 5000 psi and shall meet the requirements of CRD C 621.

2.09 EPOXY GROUT

A. Epoxy grout shall be a pourable, non-shrink, 100 percent solids system. The epoxy grout system shall have three components: resin, hardener, and specially blended aggregate, all premeasured and prepackaged. The resin component shall not contain any nonreactive diluents. Resins contained butyl glycidyl ether (BGE) or other highly volatile and hazardous reactive diluents are not acceptable. Variation of component ratios is not permitted unless specifically recommended by the manufacturer. Manufacturer's instructions shall be printed on each container in which the materials are packaged.

B. The chemical formulation of the epoxy grout shall be that recommended by the manufacturer for the particular application.

C. The mixed epoxy grout system shall have a minimum working life of 45 minutes at 75 degrees Fahrenheit.

D. The epoxy grout shall develop a compressive strength of 5000 psi in 24 hours and 10,000 psi in seven days when tested in accordance with ASTM C 579, Method B. There shall be no shrinkage (0.0 percent) and a maximum 4.0 percent expansion when tested in accordance with ASTM C 827.

2.10 GROUT FOR ENCASEMENT OF SLIP LINED PIPE

A. The Contractor shall select grouting systems and methods which may be utilized.

B. Selection of a grouting system shall take into account: liner pipe stiffness, the condition of the host pipe, liner creep rate, temperature, actual size of the annular space, determination of whether the liner pipe will be kept down on the invert of the host pipe or "floated" up to its crown, sewage flow depth, grout set time, spacing between grout injection and bleed off points, grout runout rate, and sewer conditions. These concerns shall be fully addressed in the grouting submittal.

C. This information shall be submitted well in advance of the start of grouting operations so that sufficient time is available for review and change, if required. No mix design shall be used without the approval of the Engineer.

D. The Contractor shall submit the following to the Engineer at least thirty working days prior to the start of the grouting operation.

1. The proposed grouting mix design in accordance with Section 2.10, Subsection G below.

2. The proposed grout densities and viscosities.

3. Initial set time of the grout.

4. The 24-hour and 28-day minimum grout comprehensive strengths.

5. The grout working time before fifteen percent change in density or viscosity occurs.

6. The proposed grouting method and procedures.

7. The maximum injection pressures.

8. Proposed grout stage volumes for one stage or multiple stages.

9. Bulkhead designs and locations.

10. Buoyant force calculations during grouting.

11. Flow control.

12. Provisions for re-establishment of service connections.

13. Pressure gauge, recorder, and field equipment certifications (e.g. calibrations by an approved certified lab).

14. Vent location plans.

15. Written confirmation that the Contractor has coordinated grouting procedures with the grout installer and the liner pipe manufacturer.

16. References to where this grout and grouting system has been successfully utilized.

E. Data for items 1 through 5 shall be derived from trial grout batches performed by an approved, independent testing laboratory.

F. For each different type of grout or variation in procedure or installation, a complete package shall be submitted. The submittal shall include each of the above items and the sewer locations or conditions to which it applies.

G. Performance Requirements: The Contractor shall submit the proposed grout mixes, methods, plans and criteria of the grouting operations. The grouting system shall have sufficient gauges, monitoring devices, and test to determine the effectiveness of the grouting operation and to ensure compliance with the liner pipe specifications and design parameters.

H. Mix Designs: One or more mixes shall be developed to completely fill the annular space based on the following requirements:

1. Size of the annular void.

2. Absence or presence of groundwater.

3. Sufficient strength and durability to prevent the movement of liner pipe.

4. Provide less than one percent shrinkage by volume, if grouting in a single stage. Larger shrinkage of as much as five percent may be tolerated in multi-stage grouting plans if there is a workable method to prevent voids on the last stage.

I. Grouting Equipment: The materials shall be mixed in equipment of sufficient size and capacity to provide the desired amount of grout material for each stage in a single operation. The equipment shall be capable of mixing the grout at densities required for the approved procedure and shall also be capable of changing density as dictated by field conditions any time during the grouting operation. If truck delivered grouts are to be utilized, submit a means for approval which has a successful "track record" to monitor density and insure a consistent product.

J. Conventional Grouts: Conventional "heavy" grout for filling the annulus between fiberglass liner pipe and the existing concrete pipe shall have the following properties: minimum compressive strength of 500 psi at 24 hours and 1800 psi at 28 days; maximum weight loss of grout during the wet/dry durability test of four percent; flow ability and set time suitable for application. Grout shall be made with Type II Portland cement with no chloride additives. Any additives shall be approved by the Engineer prior to use. The Contractor, in cooperation with the pipe supplier, shall develop a grout mix to meet these requirements and submit the mix to the Engineer for review. The mix shall be supported by independent test lab data verifying its properties. If the pipe supplier has previously developed a mix with the required properties, and has independent test data on file, this material will be acceptable for submission and review.

K. Lightweight Grouts

1. Lightweight grouts designed not to "float" the liner shall be as supplied and installed by Pacific International Grout Co., Bellingham, WA, or approved equal. The grout materials shall consist of portland cement or a mixture of portland cement and fly ash and/or additives. The mix shall meet the following requirements:

2. Comprehensive: The grout shall have a minimum penetration resistance of 689.48 kPa (100 psi) in 24 hours when tested in accordance with ASTM C 403 and a minimum compressive strength of 2.07 MPa (300 psi) in 28 days when tested in accordance with ASTM C 495 or C109.

3. Density / Viscosity: The Contractor shall design a grout mix with density to meet the requirements of Section 5.04.4 and to prevent floating of the liner pipe. The apparent viscosity shall not exceed twenty seconds in accordance with ASTM C 939 unless otherwise approved by the Engineer.

2.11 CHEMICAL SEALING MATERILS FOR ACTIVE LEAKS

A. Chemical sealing materials used on this Project shall have the following properties: react quickly to form a permanent water tight seal; resultant seal shall be flexible and immune to the effects of wet/dry, freeze/thaw cycles; non-biodegradable and immune to the effects of acids, alkalis, and organics in sewage; component packaging and mixing compatible with field conditions and worker safety; cleanup can be accomplished without heavy use of flammable or hazardous chemicals; extraneous

sealant left inside pipe shall be readily removable, and shall be compatible with the fiberglass slip liner or CIPP liner resin system utilized.

B. Chemical joint sealing material shall be acrylic resin type and shall be furnished with activators, initiators, inhibitors and any other materials recommended by the manufacturer for a complete grout system. Sealing grout shall be furnished in liquid form in standard manufacturer's containers. Sealing grout shall be AV-118 Duriflex manufactured by Avanti International, Houston, Texas (1-800-877-2570) or approved equal.

PART 3 -- EXECUTION

3.01 PROPORTIONING AND MIXING

A. Proportioning: Proportioning of the concrete mix shall conform to the requirements of Chapter 3 "Proportioning" of ACI 301.

B. Mixing: Mixing of concrete shall conform to the requirements of Chapter 7 of said ACI 301 Specifications.

C. Slump: Maximum slumps shall be 4 inches, plus or minus 1 inch.

D. Retempering: Retempering of concrete or mortar which has partially hardened will not be permitted.

3.02 PREPARATION OF SURFACES FOR CONCRETING

A. General: Earth surfaces shall be thoroughly wetted by sprinkling, prior to the placing of any concrete, and these surfaces shall be kept moist by frequent sprinkling up to the time of placing concrete thereon. The surface shall be free from standing water, mud, and debris at the time of placing cement.

B. No concrete shall be placed until the reinforcement steel and formwork have been erected in a manner acceptable to the Owner. The Contractor shall notify the Owner not less than 2 working days prior to concrete placement, allowing for inspection and any corrective measures which are required.

C. Existing concrete surfaces upon or against which concrete is to be placed shall be given a roughened surface for good bond. Joint surfaces shall be cleaned of all laitance, loose or defective concrete, and foreign material. Such cleaning shall be accomplished by sandblasting followed by thorough washing. All pools of water shall be removed from the surface of construction joints before the new concrete is placed.

D. Corrosion Protection: Pipe, conduit, dowels, and other ferrous items required to be embedded in concrete construction shall be so positioned and supported prior to placement of concrete that there will be a minimum of 2 inches clearance between said items and any part of the concrete reinforcement will not be permitted.

E. Cleaning: The surfaces of all metalwork to be in contact with concrete shall be thoroughly cleaned of all dirt, grease, loose scale and rust, grout, mortar, and other foreign substances immediately before the concrete is placed.

3.03 HANDLING, TRANSPORTATION, AND PLACING

A. General: Placing of concrete shall conform to the applicable requirements of Chapter 8 of ACI 301 and the requirements of this Section.

B. Non-Conforming Work or Materials: Concrete which upon or before placing is found not to conform to the requirements specified herein shall be rejected and immediately removed from the Work. Concrete which is not placed in accordance with these Specifications, or which is of inferior quality, shall be removed and replaced by and at the expense of the Contractor.

C. Unauthorized Placement: No concrete shall be placed except in the presence of duly authorized representative of the Owner. The Contractor shall notify the Owner in writing at least 24 hours in advance of placement of any concrete.

D. Placement in Slabs: Concrete placed in sloping slabs shall proceed uniformly from the bottom of the slab to the top, for the full width of the pour. As the work progresses, the concrete shall be vibrated and carefully worked around the slab reinforcement, and the surface of the slab shall be screeded in an up-slope direction.

3.04 FINISHING CONCRETE SURFACES

A. General: Surfaces shall be free from fins, bulges, ridges, offsets, honeycombing, or roughness of any kind, and shall present a finished, smooth, continuous hard surface. Allowable deviations from plumb or level and from the alignment, profiles, and dimensions shown on the Drawings are defined as tolerances and are specified herein. These tolerances are to be distinguished from irregularities in finish as described herein.

B. Unformed Surfaces: After proper and adequate vibration and tamping, all unformed top surfaces of slabs and curbs shall be brought to a uniform surface with suitable tools.

C. Slabs shall receive a steel trowel finish without local depressions or high points. In addition, the surface shall be given a light heirbroom finish with brooming perpendicular to drainage unless otherwise shown. The resulting surface shall be rough enough to provide a nonskid finish.

3.05 CURING AND DAMPPROOFING

A. All concrete shall be cured for not less than 14 days after placing, in accordance with the methods specified herein for the different parts of the work, and described in detail in the following paragraphs.

B. The surface shall be sprayed with al liquid curing compound. It shall be applied in accordance with the manufacturer's printed instructions at a maximum coverage rate of 200 square feet per gallon and in such a manner as to cover the surface with a uniform film which will seal thoroughly.

C. Care shall be exercised to avoid damage to the seal during the curing period. Should the seal be damaged or broken before the expiration of the curing period, the break shall be repaired immediately by the application of additional curing compound over the damaged portion.

D. Wherever curing compound may have been applied by mistake to faces against which concrete subsequently is to be placed and to which it is to adhere, said compound shall be entirely removed by wet sandblasting just prior to the placing of new concrete.

E. Curing compound shall be applied as soon as the concrete has hardened enough to prevent marring on uniformed surfaces, and within 2 hours after removal of forms from contact with formed surfaces. Repairs required to be made to formed surfaces shall be made within the said 2-hour period; provided, however, that any such repairs which cannot be made within the said 2-hour period shall be delayed until after the curing compound has been applied. When repairs are to be made to an area on which curing compound has been applied, the area involved shall first be wet-sandblasted to remove the curing compound, following which repairs shall be made as provided herein.

3.06 PROTECTION

A. The Contractor shall protect all concrete against injury until final acceptance by the Owner. Fresh concrete shall be protected from damage due to rain. The Contractor shall provide such protection while the concrete is still plastic and whenever such precipitation is imminent or occurring.

3.07 TREATMENT OF SURFACE DEFECTS

A. As soon as forms are removed, all exposed surfaces shall be carefully examined and any irregularities shall be immediately rubbed or ground in a satisfactory manner in order to secure a smooth, uniform, and continuous surface. Plaster or coat surfaces to secure a smooth, uniform, and continuous surface. Plastering or coating of surfaces to be smoothed will not be permitted. No repairs shall be made until after inspection by the Owner. In no case will extensive patching of honeycombed concrete be permitted. Concrete containing minor voids, holes, honeycombing, or similar depression defects shall have them repaired as specified herein. Concrete containing extensive voids, holes, honeycombing, or similar depression defects, shall be completely removed and replaced. All repairs and replacements herein specified shall be promptly executed by the Contractor at its own expense.

3.08 CARE AND REPAIR OF CONCRETE

A. The Contractor shall protect all concrete against injury or damage from excessive heat, lack of moisture, overstress, or any other cause until final acceptance by the Owner. Particular care shall be taken to prevent the drying of concrete and to avoid roughening or otherwise damaging the surface. Any concrete found to be damaged, or which may have been originally defective, or which becomes defective at any time prior to the final

- END OF SECTION -

SECTION 03480

PRECAST CONCRETE MANHOLES, HANDHOLES AND VAULTS

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall construct all precast concrete items as required in the Contract Documents, including all appurtenances necessary to make a complete installation.

B. Where an item on the Drawings is called out as a Florida Department of Transportation (FDOT) index number then the item shall be constructed per the requirements of the FDOT.

C. Owner may choose to furnish select items described by this specification to be installed by Contractor.

1.02 QUALITY CONTROL

A. Without limiting the generality of other requirements of these specifications, all work specified herein shall conform to or exceed the requirements of the South Florida Building Code and the applicable requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of this Section:

1. ASTM C478 Specification for Precast Reinforced Concrete Manhole Sections.

2. ACI 318 Building Code Requirements for Reinforced Concrete.

1.03 SUBMITTALS

A. The Contractor shall submit shop drawings for all precast concrete items. Submitted drawings shall show all dimensions, location and type of lifting inserts, and details of reinforcement and joints in accordance with Section 01300 entitled "Submittals".

B. For all precast items which are manufactured, the Contractor shall also submit a list of the design criteria used by the manufacturer.

C. For all precast items which are manufactured, and which have a clear dimension, in any direction, greater than or equal to 4' - 0", the Contractor shall submit design calculations showing, at least, the design loads and stresses on the item. Calculations shall be signed and sealed by a Professional Engineer registered in the State of Florida.

D. The Contractor shall submit certified reports for all lifting inserts, showing allowable design loads on the inserts.

PART 2 -- PRODUCTS

2.01 PRECAST CONCRETE MANHOLE SECTIONS

A. Precast concrete sections, twenty-four inches and larger in diameter, which are used as manhole sections, shall conform to ASTM C478 except as modified herein. Reinforcement, if shown, shall be as shown on the Drawings. Sections shall have tongue and groove joints. Tapered top sections shall be supplied where they are shown on the drawings, or where they are otherwise indicated to be necessary. The design and manufacture of the sections shall be based on H-20 traffic loading. Reinforcement shall conform to the requirements of the Section entitled "CONCRETE AND GROUT". Minimum wall thickness shall be eight inches. Cement shall be ASTM C150, Type II. The date and name of manufacturer shall be marked inside each precast section.

2.02 PRE-FORMED JOINT SEALANT

A. The joint sealing compound shall preformed, cold-applied, ready to use plastic joint sealing compound, "Ram-Nick" by K.T. Snyder Company; or equal.

2.03 MORTAR

A. Mortar used between the sections of precast concrete manholes and vaults shall be as recommended by the section manufacturer, subject to the requirements of Division 4.

2.04 NON-SHRINK GROUT

A. Non-shrink grout shall be as specified in the Section entitled "CONCRETE AND GROUT".

2.05 BRICK

A. Brick shall be sound, hard-burned common brick conforming to ASTM C32, Grade MS.

2.06 CONCRETE BALLAST

A. Concrete ballast shall be Class B concrete in conformance with the Section entitled "CONCRETE AND GROUT". Ballast shall be provided as necessary to insure manhole resists flotation when empty and subjected to full height groundwater conditions.

PART 3 -- EXECUTION

3.01 DESIGN CRITERIA

A. Minimum structural design loading for underground precast concrete vaults shall be as indicated in ASTM C857, unless otherwise noted herein. Precast items subjected to vehicular traffic shall be designed for H-20 traffic loading. Other precast items shall be designed for a vertical live load of 300 psf.

B. Walls of precast items shall be designed for a vertical surcharge of 100 psf.

C. Precast manholes and vaults shall be designed to resist flotation when totally empty and subjected to groundwater full height of the manhole/vault.

3.02 INSTALLATION

A. Installation shall conform with Section 03400, Precast Concrete and with the manufacturer's recommendations or to Section 03300, Cast-in-Place Concrete.

B. Frames and covers or grates shall be set so that tops are at elevations indicated on the Drawings or flush with finished grade where no elevation is indicated.

C. Joints between riser sections shall be sealed with joint sealant.

D. All openings in utility structures shall have flexible rubber sleeves sized to fit the connecting pipe and installed to provide watertight joints in accordance with the manufacturer's recommendations. The interior of the sleeve shall be filled with Class B concrete.

E. Openings that are too large for flexible rubber sleeves shall utilize rubber bladder seals which are expanded by water injected using a pressure pump.

F. All units shall be installed plumb and level.

G. All lift holes and joints shall be filled with non-shrink grout conforming to Section 03600, grout inside and out.

H. The manhole frames shall be set to their required elevations either with grade rings or with two or three courses of brick masonry laid around the top of the upper wall section. Such brick work shall be given a 1-inch mortar coat on the inside and out.

I. Concrete ballast shall be placed so that it bears directly on the utility structure base against the outer wall monolithically encircling the structure for the full height indicated on the Drawings. Additional ballast may be required where the depth or elevation of the structure varies from the Drawings.

J. Brick or Concrete Block: Brick or concrete block shall be laid with broken joints and all horizontal and vertical joints filled with cement-sand mortar. Outside of walls shall be plastered with a minimum 1-inch thick coat of cement-sand mortar troweled smooth.

K. Connection to Existing Pipe

1. Verify the diameter and invert elevation of existing pipe to be connected to new utility structures prior to beginning work on the structures.

2. Provide adequate protection to prevent damage to the existing pipe.

3. Provide adequate means for plugging and/or transferring the existing flow in the pipe to allow for the construction of inverts and grouting.

4. Cut off the existing pipe sufficiently for connection to the new structure and remove.

5. Thoroughly clean all foreign matter and coat the pipe surface with epoxy adhesive where the pipe joins the new structure.

6. Install a flexible joint sealer around the pipe.

7. Grout inside and outside of wall penetration with nonshrink grout.

L. Backfill structures in accordance with Section 02200, Earthwork.

M. Clean all structures of any accumulation of silt, debris, or foreign matter and keep clean until final acceptance of the work.

N. Excavation shall conform to Section 02200, Earthwork.

O. Structure bases shall bear on a minimum of 8 inches of compacted stone unless otherwise indicated on the Drawings.

P. Channel Inverts

1. Inverts shall be placed using Class B concrete with forms sufficient to provide a smooth half-round shape as shown on the Drawings. Manhole bases employing full depth precast inverts are acceptable.

2. Where the slope of the line does not change through a manhole, a constant slope shall be maintained in the invert. Where slope changes occur within a given manhole, the transition shall be smooth and shall occur at the approximate center of the manhole.

3. Inverts shown on the Drawings are taken at the center of the manhole unless otherwise noted.

3.03 ADJUSTMENTS TO EXISTING UTILITY STRUCTURES

A. Adjust structures as indicated on the Drawings using concrete or cast iron adjustment rings by approved methods.

B. Clean covers and inlet castings of all foreign material and paint with one coat of coal tar epoxy.

3.04 ADJUSTING COLLARS AND FINAL ADJUSTMENTS

A. Adjusting collars shall be as shown on the Drawings. Final adjustments shall be made so that the manhole ring and cover will be smooth and flush with the finished grade of the adjacent surface, or as otherwise indicated on the Drawings for manholes shown above grade.

3.05 FLUSHING

A. Flush all storm sewer pipelines and manholes. Remove and dispose of debris.

- END OF SECTION -

SECTION 15002

REINFORCED CONCRETE PIPE

PART 1 -- GENERAL

1.01 THE REQUIREMENT

A. The Contractor shall furnish and install all reinforced concrete culverts and drain pipes and all appurtenant work, complete in place and in accordance with the requirements of FDOT, the Town of Jupiter, other applicable regulatory agencies and the Contract Documents.

B. The Owner may choose to furnish select materials under the Sales Tax and Use Program for Contractor to install.

PART 2 -- PRODUCTS

2.01 CONCRETE CULVERT AND DRAIN PIPE

A. All reinforced concrete culvert and drain pipe shall be manufactured in accordance with ASTM C76, Wall Type B or C, and shall be of the class that equals or exceeds the pipe class as specified herein or as shown on the Contract Drawings. Minimum pipe laying lengths shall be four (4) feet. Portland cement shall conform to ASTM C150, Type II.

B. Joints for the reinforced concrete culvert and drain pipe shall have bell and spigot ends with flexible plastic gaskets meeting the requirements of AASHTO M198, Type B.

C. Provided slotted pipe where indicated for the exfiltration trench. Provide non-slotted pipe were indicated in the details for connection with stormwater manholes.

D. All pipe shall be aged at the manufacturing plant for at least fourteen (14) days before delivery to the job site.

PART 3 -- EXECUTION

3.01 INSTALLATION

A. All piping shall be aligned and routed as shown and installed in accordance with the Contract Drawings.

B. All pipe joints shall be wrapped with geotextile filter fabric prior to backfilling in accordance with Town of Jupiter standards.

C. All penetrations into inlet structures shall be grouted completely using non-shrink grout.

3.02 FLUSHING

A. Flushing - After backfilling, all storm sewers shall be flushed with water. Flushing shall be a minimum velocity of 2.5 feet per second for a duration acceptable to the Owner. Flushing shall remove all dirt, stones, pieces of wood and other debris which accumulated in the

sewer during construction. The Contractor shall provide a means acceptable to the Owner for removal of debris flushed from each section of storm sewer. If after flushing, any obstructions remain, they shall be removed at the Contractor's expense. The Contractor shall provide all water, plugs, hoses, pumps, equipment, etc. necessary for the proper flushing and testing of the storm sewers

3.03 INSPECTION

A. All new storm drain pipeline shall be inspected by the Town's representative. Owner may request Contractor provide video inspection via robotic camera for an additional fee. The recorded DVD shall be delivered to the Town no later than 2 (two) Working Days after completion of the inspection. The DVD shall become the property of the Town. The Town will review the CCTV inspection records within ten (10) Working Days and will notify the Contractor if:

1. The review revealed a satisfactory installation, or
2. The review revealed deficiencies.

B. The following deficiencies in storm drain installation that are identified by the Inspector or by television inspection shall be corrected by the Contractor at no cost to the Town:

1. Joint separation greater than one-half inch (1/2").
2. Offset joints greater than one-half the pipe wall thickness.
3. Joint deflection of more than seventy-five percent (75%) of manufacturer's recommended maximum.
4. Cracked or damaged pipe, including liner pipe.
5. Debris in the line.
6. Identifiable sags or high points in the line greater than ¾ inches in pipes 6" and larger.

C. The Contractor will be notified in writing of any deficiencies revealed by the inspection(s) that require repair. The Contractor may request a review of the video with the Town. Upon completion of the required corrective actions, the storm drain will be re-inspected (televised if previously televised) at no additional cost to the Owner. This process shall be repeated until the review of the recorded television inspection reveals a satisfactory installation.

- END OF SECTION -

JOHNINC-02 SBUHR

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 8/30/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Johnson Insurance Racine 555 Main Street, Suite 291 Racine, WI 53403	CONTACT NAME: Sharon Majeski, ARM PHONE (A/C, No, Ext): (920) 433-7107 FAX (A/C, No): (877) 254-8586 E-MAIL ADDRESS: smajeski@johnsonins.com
INSURED Johnson-Davis, Inc. 604 Hillbrath Drive Lantana, FL 33462	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : HDI Global Insurance Company — 41343 INSURER B : Certain Underwriters at Lloyd's INSURER C : XL Specialty Insurance Company — 37885 INSURER D : INSURER E : INSURER F :

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:	X		EGGCC000173516	03/01/2016	03/01/2017	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 300,000 $ 10,000 $ 2,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			EAGCC000173516	03/01/2016	03/01/2017	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) PIP Basic	$ 2,000,000 $ $ $ $ 10,000
A	UMBRELLA LIAB X OCCUR X EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 0			EXAGC000173516	03/01/2016	03/01/2017	EACH OCCURRENCE AGGREGATE	$ 3,000,000 $ 3,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ $ $
B	Excess Liability			ELD10006501301	03/01/2016	03/01/2017	Excess Liab over 3 M	1,000,000
C	Equipment Floater			UM00034349MA16A	03/01/2016	03/01/2017	Blanket	300,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Contractor's Pollution Liability - Policy # 7930030920001- Limit - $1,000,000 - 3/1/2016-17 - Homeland Insurance Company of NY

Re: Unit Price Contract for Stormwater Utility Infrastructure Repairs (S1628)
Town Of Jupiter(owner) is additional insured as respects general liability subject to the terms, conditions and exclusions of the policy.

CERTIFICATE HOLDER

Town Of Jupiter - Utilities
Assistant Utilities Director
210 Military Trail
Jupiter, FL 33458

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Brian McNulty

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 8/30/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER M3 Insurance Solutions, Inc. 828 John Nolen Drive Madison WI 53713	**CONTACT NAME:** Trisha Stark **PHONE (A/C, No, Ext):** 608-288-2805 **FAX (A/C, No):** **E-MAIL ADDRESS:** Trisha.Stark@m3ins.com **PRODUCER CUSTOMER ID #:** JOHNINC-01
INSURED Johnson-Davis Incorporated 604 Hillbrath Drive Lantana FL 33462	**INSURER(S) AFFORDING COVERAGE** — **NAIC #** INSURER A: Amerisure Mutual Insurance INSURER B: INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES **CERTIFICATE NUMBER:** 1512591999 **REVISION NUMBER:**

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

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	☐ ☐ CLAIMS-MADE ☐ OCCUR						MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
							GENERAL AGGREGATE	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG	$
	☐ POLICY ☐ PRO-JECT ☐ LOC							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ ALL OWNED AUTOS						BODILY INJURY (Per accident)	$
	☐ SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident)	$
	☐ HIRED AUTOS							$
	☐ NON-OWNED AUTOS							$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DEDUCTIBLE							$
	☐ RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ N/A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			WC210013500	3/1/2016	3/1/2017	X WC STATU-TORY LIMITS ☐ OTH-ER	
							E.L. EACH ACCIDENT	$1,000,000
							E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

RE: Unit Price Contract for Stormwater Utility Infrastructure Repairs (S1628)

CERTIFICATE HOLDER

Town of Jupiter
210 Military Trail
Jupiter FL 33458

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Trisha Stark

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Johnson-Davis, Inc.

POLICY NUMBER: EGGCC000173516

COMMERCIAL GENERAL LIABILITY
CG 20 10 04 13

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations
Town Of Jupiter	Unit Price Contract for Stormwater Utility Infrastructure Repairs (S1628)
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. **Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

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C. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.

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