

North River Ranch Community Development District

12051 Corporate Blvd., Orlando, FL 32817

Phone: 407-723-5900, Fax: 407-723-5901

www.northriverranchcdd.com

The following is the agenda for the Board of Supervisors Meeting for the **North River Ranch Community Development District** scheduled to be held **Wednesday, May 12, 2021 1:30 p.m. at 8141 Lakewood Main Street, Bradenton, FL 34202**. The following is the proposed agenda for this meeting.

Call in number: 1-844-621-3956

Passcode: 790 562 990 #

BOARD OF SUPERVISORS' MEETING AGENDA

Administrative Matters

- Roll Call to Confirm Quorum
- Public Comment Period *[for any members of the public desiring to speak on any proposition before the Board]*

Business Matters

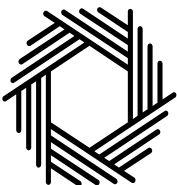
1. Consideration of the Minutes of the April 14, 2021 Board of Supervisors' Meeting
2. Consideration of Resolution 2021-10, Approving a Preliminary Budget for Fiscal Year 2022 and Setting a Public Hearing Date [Suggested Hearing Date of August 11, 2021]
3. Letter from Supervisor of Elections- Manatee County
4. Review and Consideration of RIPA & Associates Agreement, Moccasin Wallow Road & Fort Hamer Road
5. Review and Consideration of Clearview Land Design P.L, North River Ranch Phases IV-A& Mass Grading
6. Review and Consideration of RIPA & Associates, Phase IV-A
7. Review and Consideration of Booth Design Group Agreement
8. Ratification of Funding Requests # 20 -24
9. Review of District Financial Statements (under separate cover)

Other Business

Staff Reports

District Counsel
District Engineer
District Manager

Supervisor Requests and Audience Comments



pfm

Adjournment



**North River Ranch
Community Development District**

Consideration of the Minutes of the April 14,
2021 Board of Supervisors' Meeting

MINUTES OF MEETING

**NORTH RIVER RANCH COMMUNITY DEVELOPMENT DISTRICT
BOARD OF SUPERVISORS MEETING MINUTES**

Wednesday, April 14, 2021 at 1:00 p.m.

**8141 Lakewood Main Street,
Bradenton, FL 34202**

Board Members present via phone or in person:

Pete Williams	Chairperson
Ivory Matthews	Vice Chairperson
Priscilla Heim	Assistant Secretary
John Blakley	Assistant Secretary
Dale Weidemiller	Assistant Secretary

Also present via phone or in person:

Vivian Carvalho	District Manager- PFM Group Consulting LLC	
Venessa Ripoll	Assistant District Manager- PFM Group Consulting LLC (via phone)	
Ed Vogler	Vogler Ashton	(via phone)
Kim Ashton	Vogler Ashton	(via phone)
Jonathan Johnson	Hopping Green & Sams	(via phone)
John McKay	Neal Communities	
Jim Schier	Neal Communities	
Tom Panaseney	Neal Communities	(via phone)
Janice Snow	Neal Communities	
Mark Roscoe	Neal Communities	(via phone)
Jordan Schrader	District Engineer-Clearview Land Design, P.L. (via phone)	
Misty Taylor	Bryant Miller Olive P.A.	(via phone)
Sete Zare	MBS Capital Markets, LLC	(via phone)

FIRST ORDER OF BUSINESS

Administrative Matters

Call to Order and Roll Call

Ms. Carvalho called to order at 2:31 p.m. the meeting of the Board of Supervisors of the North River Ranch Community Development District and proceeded with roll call. The persons in attendance are outlined above either in person or via speakerphone.

Public Comment Period

There were no members of the public present at this time.

SECOND ORDER OF BUSINESS

General Business Matters

Consideration of the Minutes of the March 10, 2021 Board of Supervisors' Meeting

The Board reviewed the Minutes of the March 10, 2021 Board of Supervisors' Meeting.

On MOTION by Mr. Williams, seconded by Ms. Matthews, with all in favor, the Board approved the Minutes of the March 10, 2021 Board of Supervisors' Meeting.

Review and Consideration of the Onsite Industries, LLC Proposals

The Board reviewed the Onsite Industries, LLC Proposals. Mr. Roscoe explained this proposal is for the street signs and mailboxes for the two phases.

On MOTION by Mr. Williams, seconded by Mr. Weidemiller, with all in favor, the Board approved the Onsite Industries, LLC Proposals.

Review and Consideration of the Clearview Land Design, P.L, Amenity Site Design Proposal

Jordan Schrader presented the Clearview Land Design, P.L, Amenity Site Design Proposal. This proposal is for the initiation of the design of the Amenity Center to be located in Phase 3A and 3B. It includes the extension of some subdivision collector roads and design and permitting of the Amenity Center.

On MOTION by Mr. Williams, seconded by Ms. Matthews, with all in favor, the Board approved the Clearview Land Design, P.L, Amenity Site Design Proposal.

**Review and Consideration of the
Clearview Land Design, P. L, IV-D
Design/ Permitting**

Jordan Schrader presented the Clearview Land Design, P. L, IV-D Design/ Permitting. This is for the design and permitting of the next large phase of traditional single-family homes all around the Amenity Center and is everything west of Fort Hamer and South of Road FF.

On MOTION by Mr. Weidemiller, seconded by Mr. Williams, with all in favor, the Board approved Clearview Land Design, P. L, IV-D Design/ Permitting.

**Ratification of Funding Requests
17-19**

The Board reviewed Funding Requests #17-19.

On MOTION by Mr. Williams, seconded by Mr. Blakley, with all in favor, the Board ratified Funding Requests #17-19.

**Review of District Financial
Statements**

The Board reviewed the District's Financial Statements through March 31, 2021.

On MOTION by Mr. Williams, seconded by Ms. Heim, with all in favor, the Board accepted the District Financial Statements.

THIRD ORDER OF BUSINESS

Other Business

Staff Reports

District Counsel – No Report

District Engineer – No Report

District Manager – Ms. Carvalho noted for the record that the next scheduled meeting will be on May 12, 2021. That is when the District will start the Proposed Budget process for Fiscal Year 2022. At that meeting, the Board will schedule the Public Hearing to coincide with the August meeting.

**Audience Comments and
Supervisor Requests**

There were no Supervisor requests or audience comments.

FOURTH ORDER OF BUSINESS

Adjournment

Ms. Carvalho requested if there is no further business to come before the Board for a motion to adjourn the meeting.

ON MOTION by Mr. Williams, seconded by Ms. Matthews, with all in favor, the April 14, 2021 Board of Supervisor’s Meeting for the North River Ranch Community Development District was adjourned at 2:37 p.m.

Secretary / Assistant Secretary

Chairperson / Vice Chairperson

**North River Ranch
Community Development District**

Consideration of Resolution 2021-10, Approving
a Preliminary Budget for Fiscal Year 2022 and
Setting a Public Hearing Date [Suggested
Hearing Date of August 11, 2021]

RESOLUTION 2021-10

A RESOLUTION OF THE BOARD OF SUPERVISORS OF THE NORTH RIVER RANCH COMMUNITY DEVELOPMENT DISTRICT APPROVING PROPOSED BUDGET FOR FISCAL YEAR 2021/2022 AND SETTING A PUBLIC HEARING THEREON PURSUANT TO FLORIDA LAW; ADDRESSING TRANSMITTAL, POSTING AND PUBLICATION REQUIREMENTS; ADDRESSING SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the District Manager has heretofore prepared and submitted to the Board of Supervisors (“**Board**”) of the North River Ranch Community Development District (“**District**”) prior to June 15, 2021, proposed budget (“**Proposed Budget**”) for the fiscal year beginning October 1, 2021 and ending September 30, 2022 (“**Fiscal Year 2021/2022**”); and

WHEREAS, the Board has considered the Proposed Budget and desires to set the required public hearing thereon.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF SUPERVISORS OF THE NORTH RIVER RANCH COMMUNITY DEVELOPMENT DISTRICT:

1. **PROPOSED BUDGET APPROVED.** The Proposed Budget prepared by the District Manager for Fiscal Year 2021/2022 attached hereto as **Exhibit A** is hereby approved as the basis for conducting a public hearing to adopt said Proposed Budget.

2. **SETTING A PUBLIC HEARING.** A public hearing on said approved Proposed Budget is hereby declared and set for the following date, hour and location:

DATE: _____, 2021

HOUR: _____

LOCATION: _____

3. **TRANSMITTAL OF PROPOSED BUDGET TO LOCAL GENERAL PURPOSE GOVERNMENTS.** The District Manager is hereby directed to submit a copy of the Proposed Budget to Manatee County at least 60 days prior to the hearing set above.

4. **POSTING OF PROPOSED BUDGET.** In accordance with Section 189.016, *Florida Statutes*, the District’s Secretary is further directed to post the approved Proposed Budget on the District’s website at least two days before the budget hearing date as set forth in Section 2, and shall remain on the website for at least 45 days.

5. **PUBLICATION OF NOTICE.** Notice of this public hearing shall be published in the manner prescribed in Florida law.

6. **SEVERABILITY.** The invalidity or unenforceability of any one or more provisions of this Resolution shall not affect the validity or enforceability of the remaining portions of this Resolution, or any part thereof.

7. **EFFECTIVE DATE.** This Resolution shall take effect immediately upon adoption.

PASSED AND ADOPTED THIS 12th DAY OF MAY, 2021.

ATTEST:

**NORTH RIVER RANCH COMMUNITY
DEVELOPMENT DISTRICT**

Secretary

By: _____
Its: _____

Exhibit A: FY 2021/2022 Proposed Budget

North River Ranch CDD
 FY 2022 Proposed O&M Budget

	Actual Through 03/31/2021	Anticipated Apr. - Sep.	Anticipated FY 202 Total	FY 2021 Adopted Budget	FY 2022 Proposed Budget
Revenues					
Developer Contributions	\$ 46,966.62	\$ 47,749.12	\$ 94,715.74	\$ 102,175.00	\$ 142,480.00
Net Revenues	\$ 46,966.62	\$ 47,749.12	\$ 94,715.74	\$ 102,175.00	\$ 142,480.00
General & Administrative Expenses					
Supervisor Fees	\$ 6,800.00	\$ 6,000.00	\$ 12,800.00	\$ 12,000.00	\$ 12,000.00
Public Officials' Insurance	2,421.00	-	2,421.00	2,475.00	2,475.00
Trustee Services	-	3,000.00	3,000.00	6,000.00	6,000.00
Management	10,000.02	9,999.98	20,000.00	20,000.00	45,000.00
Engineering	5,195.41	5,195.41	10,390.82	15,000.00	20,000.00
Dissemination Agent	2,500.00	2,500.00	5,000.00	5,000.00	5,000.00
District Counsel	10,973.50	10,973.50	21,947.00	20,000.00	30,000.00
Assessment Administration	-	7,500.00	7,500.00	7,500.00	7,500.00
Audit	-	3,200.00	3,200.00	6,000.00	6,000.00
Postage & Shipping	33.01	33.01	66.02	300.00	300.00
Copies	301.19	301.19	602.38	500.00	500.00
Legal Advertising	851.76	851.76	1,703.52	1,000.00	1,000.00
Bank Fees	-	-	-	-	180.00
Miscellaneous	-	250.00	250.00	500.00	500.00
Office Supplies	-	-	-	-	125.00
Web Site Maintenance	1,050.00	1,650.00	2,700.00	2,700.00	2,700.00
Dues, Licenses, and Fees	175.00	-	175.00	175.00	175.00
General Insurance	2,960.00	-	2,960.00	3,025.00	3,025.00
Total General & Administrative Expenses	\$ 43,260.89	\$ 51,454.85	\$ 94,715.74	\$ 102,175.00	\$ 142,480.00
Total Expenses	\$ 43,260.89	\$ 51,454.85	\$ 94,715.74	\$ 102,175.00	\$ 142,480.00
Net Income (Loss)	\$ 3,705.73	\$ (3,705.73)	\$ -	\$ -	\$ -

**North River Ranch
Community Development District**

Letter from Supervisor of Elections- Manatee
County

MICHAEL BENNETT • SUPERVISOR OF ELECTIONS • MANATEE COUNTY

600 301 Boulevard West, Suite 108, Bradenton, Florida 34205-7946
P O Box 1000, Bradenton, Florida 34206-1000



Phone: 941-741-3823 • Fax: 941-741-3820 • VoteManatee.com • Info@VoteManatee.com

April 20, 2021

North River Ranch Community Development District
PFM Group Consulting, LLC
Attn: Vivian Carvalho
12051 Corporate Blvd
Orlando FL 32817

Dear Ms. Carvalho:

We are in receipt of your request for the number of registered voters in the North River Ranch Community Development District of April 15, 2021. According to our records, there were 0 persons registered in the North River Ranch Community Development District as of that date.

I hope this information is helpful to you. If I can be of any further assistance to you, please do not hesitate to contact my office at your earliest convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Bennett". The signature is fluid and cursive, with a large initial "M" and "B".

Michael Bennett
Supervisor of Elections

MB/sas

**North River Ranch
Community Development District**

Review and Consideration of RIPA & Associates
Agreement, Moccasin Wallow Road & Fort
Hamer Road



To:	Neal Communities	Contact:	Mark ROSCOE
Address:	5800 Lakewood Ranch Boulevard Lakewood Ranch, FL 34240	Phone:	941-328-1075
Project Name:	North River Ranch Phase 4A & 4B	Fax:	(941) 713-3780
Project Location:	Moccasin Wallow Road & Fort Hamer Road, Palmetto, FL	Bid Number:	20-375A
		Bid Date:	12/4/2020

Line #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
GEN CONDITIONS					
	CLEARING STANDBY TIME	1.00	LS	\$43,296.00	\$43,296.00
Total Price for above GEN CONDITIONS Items:					\$43,296.00

Total Bid Price: \$43,296.00

Notes:

- PER NEALS REQUEST CLEARING SUBCONTRACTOR WAS KEPT ON STANDBY FOR 6 WORKING DAYS FROM 03/15/21 - 03/22/21 WITHOUT ANY BILLABLE ITEMS TO PERFORM.
- CONSTRUCTION STAKING & RECORD SURVEY BY OTHERS. -OR- CONSTRUCTION STAKING AND RECORD SURVEY, FOR RIPA'S SCOPE OF WORK ONLY, ARE INCLUDED. RECORD DRAWINGS, WHICH ARE THE RESPONSIBILITY OF THE ENGINEER OF RECORD, ARE NOT INCLUDED. WE HAVE NOT INCLUDED STAKING OR CONTROL POINTS FOR BUILDING PAD FOUNDATION OR FOOTER CONSTRUCTION.
- GEOTECHNICAL/ MATERIALS TESTING IS BY OTHERS.
- BONDING NOT INCLUDED. IF REQUIRED, PLEASE ADD 1.25%.
- PERMIT / INSPECTION FEES BY OTHERS.
- ASSUMES DISCING SHALL BE ACCEPTED BY THE GEOTECHNICAL ENGINEER.
- ASSUMES PAD ELEVATION IS 6" BELOW FINISH FLOOR (+/- 0.10' TOLERANCE).
- THIS PROPOSAL IS BASED ON EXISTING TOPO NOTED ON THE DRAWINGS BEING ACCURATE WITHIN 0.2 FEET AT ANY GIVEN LOCATION. TOPO VERIFICATION MAY BE REQUIRED PRIOR TO FINAL CONTRACT.
- THIS PROPOSAL IS BASED ON A GEOTECHNICAL REPORT PROVIDED BY XXXXX, DATED XX/XX/XX.
- THIS PROPOSAL IS BASED ON ALL ONSITE CUT MATERIAL, INCLUDING MATERIAL FROM PIPE TRENCHES, BEING USABLE FOR STRUCTURAL / PAVEMENT AREAS AND TRENCH BACKFILL. REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL IS NOT INCLUDED.
- NO ALLOWANCE HAS BEEN MADE FOR TESTING, HANDLING, TREATING, REMOVING OR DISPOSING OF HAZARDOUS OR CONTAMINATED MATERIALS, SOILS, OR GROUNDWATER. IN ADDITION, REMOVAL AND DISPOSAL OF BURIED TRASH IS NOT INCLUDED.
- INCLUDED IN THIS PROPOSAL IS ONE TIME ROUGH GRADING (PRIOR TO VERTICAL CONSTRUCTION) AND ONE TIME FINAL GRADING (AFTER VERTICAL CONSTRUCTION). ANY ADDITIONAL GRADING WILL BE PERFORMED FOR AN AGREED UPON PRICE.
- TELEPHONE, POWER, CABLE, IRRIGATION, ETC. CONDUIT AND SLEEVES BY OTHERS, UNLESS SPECIFIED.
- UNLESS NOTED, WE HAVE NOT INCLUDED ANY ADJUSTMENTS/REMOVAL OR RELOCATION OF EXISTING UTILITIES WHICH MAY CONFLICT WITH PROPOSED WORK.
- ITEMS NOT INCLUDED ARE: IMPORT FILL; WELL ABANDONMENT; LANDSCAPING; IRRIGATION; ROOT PRUNING; TREE TRIMMING; INVASIVE SPECIES REMOVAL; MITIGATION PLANTINGS; DEMOLITION; STRIPPING OF SITE; FENCE; AND PERIMETER WALLS.
- THE ABOVE PRICING IS BASED ON TODAY'S MARKET. DUE TO THE VOLATILITY OF FUEL, PETROLEUM / PVC AND CONCRETE PRODUCTS, WE ARE UNABLE TO PREDICT TOMORROW'S MARKET. THIS PROPOSAL DOES NOT INCLUDE ANY ADJUSTMENTS / SURCHARGE FOR MATERIAL PRICE INCREASES.
- THIS PROPOSAL IS BASED ON CONSTRUCTION PLANS DATED XX/XX/XX WITH THE MOST RECENT REVISION DATE BEING XX/XX/XX.



To: Neal Communities	Contact: Mark ROSCOE
Address: 5800 Lakewood Ranch Boulevard Lakewood Ranch, FL 34240	Phone: 941-328-1075 Fax: (941) 713-3780
Project Name: North River Ranch Phase 4A & 4B	Bid Number: 20-375A
Project Location: Moccasin Wallow Road & Fort Hamer Road, Palmetto, FL	Bid Date: 12/4/2020

<p>ACCEPTED: The above prices, specifications and conditions are satisfactory and are hereby accepted.</p> <p>Buyer: _____</p> <p>Signature: _____</p> <p>Date of Acceptance: _____</p>	<p>CONFIRMED: Ripa & Associates</p> <p>Authorized Signature: _____</p> <p>Estimator: Andrew Babchick 813-417-6920 ababchick@ripaconstruction.com</p>
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Superior ROW Services, LLC

Job No. 21-006 North River Ranch / Standby

Period through 03-22-21

Description		Rate	Mon 03/15/21	Tue 03/16/21	Wed 03/17/21	Thur 03/18/21	Fri 03/19/21	Mon 03/22/21	Total Quantity	Total Amount
LABOR									Subtotal	\$ 16,128.00
Working Foreman	HR	\$ 69.00	16.00	16.00	16.00	16.00	16.00	16.00	96.00	\$ 6,624.00
Equipment Operator Class A	HR	\$ 50.00	24.00	24.00	24.00	24.00	24.00	24.00	144.00	\$ 7,200.00
Equipment Operator Class B	HR	\$ 48.00	8.00	8.00	8.00	8.00	8.00	8.00	48.00	\$ 2,304.00
Equipment Operator Class C	HR	\$ 41.00							0.00	\$ -
EQUIPMENT									Subtotal	\$ 23,232.00
Cat 323 Excavator or Equivalent	HR	\$ 63.00	16.00	16.00	16.00	16.00	16.00	16.00	96.00	\$ 6,048.00
Cat D6 LGP Dozer or Equivalent	HR	\$ 121.00	16.00	16.00	16.00	16.00	16.00	16.00	96.00	\$ 11,616.00
Cat 950M Loader or Equivalent	HR	\$ 58.00	16.00	16.00	16.00	16.00	16.00	16.00	96.00	\$ 5,568.00
Fuel Trailer	HR	\$ 5.00							0.00	\$ -
OTHER									Subtotal	\$ -
	LS								\$0.00	\$ -
			6,560.00	6,560.00	6,560.00	6,560.00	6,560.00	6,560.00		
									Total	\$ 39,360.00



1850



FIELD EXTRA WORK ORDER

PROJECT # 21-006

WORK ORDER # 1

DATE 3-15-21

DESCRIPTION OF WORK Stand By

EMPLOYEES:

DATE	NAME	CLASSIFICATION	HOURS	RATE
3-15-21	Chris Kasza	Foreman	8	
	James Langley	Operator	8	
	Sherrad Watson	Operator	8	
	Derek Williams	Operator	8	
	Cody Sant	Foreman	8	
	Domingo Sanchez	Operator	8	

EQUIPMENT/TOOLS:

DATE	DESCRIPTION	HOURS	COMMENTS
3-15-21	323 Cat	8	
	265 Sony	8	
	16	8	
	46	8	
	950 m	8	

PURCHASES OF MATERIALS/SERVICES, ETC:

DATE	DESCRIPTION

Work Performed For: RipA

Owner Rep: Charles Ora

Signed By: [Signature]



FIELD EXTRA WORK ORDER

PROJECT # 21-006 WORK ORDER # 2 DATE 3-16-21

DESCRIPTION OF WORK Stand by

EMPLOYEES:

DATE	NAME	CLASSIFICATION	HOURS	RATE
3-16-21	Chris Kasza	Foreman	8	
	Cody Gant	Foreman	8	
	James Appleby	Operator	8	
	Sherron Watson	Operator	8	
	Derek Williams	Operator	8	
	Domingo Sanchez	Operator	8	

EQUIPMENT/TOOLS:

DATE	DESCRIPTION	HOURS	COMMENTS
3-16-21	156	8	
	16		
	850m		
	950m		
	323 Cat		
	265 Suny		

PURCHASES OF MATERIALS/SERVICES, ETC:

DATE	DESCRIPTION

Work Performed For: RIPA
 Owner Rep: Charles Orr Signed By: [Signature]



FIELD EXTRA WORK ORDER

PROJECT # 21-006

WORK ORDER # 3

DATE 3-17-21

DESCRIPTION OF WORK Stand by

EMPLOYEES:

DATE	NAME	CLASSIFICATION	HOURS	RATE
3-17-21	Chas Kasza	Fireman	8	
	Cody Gurt	Fireman	8	
	James Langley	Operator	8	
	Nesck Williams	Operator	8	
	Sherrad Watson	Operator	8	
	Homingo Sanchez	Operator	8	

EQUIPMENT/TOOLS:

DATE	DESCRIPTION	HOURS	COMMENTS
3-17-21	D6	8	
	D6	8	
	950m	8	
	950m	8	
	323 cat	8	
	265 Sany	8	

PURCHASES OF MATERIALS/SERVICES, ETC.:

DATE	DESCRIPTION

Work Performed For: RipA
 Owner Rep: Charles Drew Signed By: [Signature]



FIELD EXTRA WORK ORDER

PROJECT # 21-006

WORK ORDER # 4

DATE 3-18-21

DESCRIPTION OF WORK Stand by

EMPLOYEES:

DATE	NAME	CLASSIFICATION	HOURS	RATE
3-18-21	Chris Keszka	Foreman	8	
	Cody Grant	Foreman		
	James Langley	Operator		
	Stewart Watson	Operator		
	Nesuke Williams	Operator		
	Domingo Sanchez	Operator		

EQUIPMENT/TOOLS:

DATE	DESCRIPTION	HOURS	COMMENTS
3-18-21	D6	8	
	D6		
	323 cat		
	265 Sany		
	95Dm		
	45Dm		

PURCHASES OF MATERIALS/SERVICES, ETC.:

DATE	DESCRIPTION

Work Performed For: Ripa

Owner Rep: Charles Dico Signed By: [Signature]



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FIELD EXTRA WORK ORDER

PROJECT # 21-006

WORK ORDER # 5

DATE 3-19-21

DESCRIPTION OF WORK Stand by

EMPLOYEES:

DATE	NAME	CLASSIFICATION	HOURS	RATE
3-19-21	Chris Kasza	foreman	8	
	Cody Bunt	foreman		
	James Langley	operator		
	Derek Williams	operator		
	Sherrad Watson	operator		
	Domingo Sanchez	operator		

EQUIPMENT/TOOLS:

DATE	DESCRIPTION	HOURS	COMMENTS
3-19-21	D6	8	
	D6	8	
	323 Cat	8	
	265	8	
	950m	8	
	950m	8	

PURCHASES OF MATERIALS/SERVICES, ETC:

DATE	DESCRIPTION

Work Performed For:

Owner Rep: Charles Dora

Signed By: [Signature]

North River Ranch Community Development District

Review and Consideration of Clearview Land
Design P.L, North River Ranch Phases IV-A&
Mass Grading



Contract Documents and Technical Specifications

North River Ranch Phases IV-A & Mass Grading

Prepared for:

**North River Ranch
Community Development District
c/o Public Financial Management
12051 Corporate Blvd.
Orlando, FL 32817**

Prepared by:

**Clearview Land Design, P.L.
3010 W Azeele Street Suite 150
Tampa, Florida 33609**

Notice to Proceed

Date: 3/29/2021

Project:	North River Ranch Phase IV-A & Mass Grading
Owner:	North River Ranch Community Development District
Contract Amount:	\$9,899,999.80
Contractor:	Ripa & Associates
Contractor Address:	1409 Tech Blvd # 1
	Tampa, FL 33619

You are notified that the contract times under the above contract will commence to run on March 29th, 2021. On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the number of days to achieve Substantial Completion is 226 Calendar Days and the number of days to achieve readiness for final payment is 261 Calendar Days.

North River Ranch Community Development District

Owner

Given By:



Authorized Signature

District Engineer

Title

3/29/2021

Date

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NORTH RIVER RANCH PHASE IV

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REQUEST FOR QUALIFICATIONS

FOR CIVIL/SITE CONSTRUCTION SERVICES

NORTH RIVER RANCH COMMUNITY DISTRICT DEVELOPMENT MANATEE COUNTY, FLORIDA

North River Ranch Community Development District (NRRCCDD) requests Qualifications Submittals from firms interested in providing civil/site construction services. Upcoming projects include construction of roadway improvements, stormwater management facilities, utilities, and certain other infrastructure in Manatee County, Florida.

To be eligible to submit qualifications, firms must hold all required applicable state licenses in good standing, hold all required applicable federal licenses in good standing, and be authorized to do business in the State of Florida.

Applicants may request a Qualifications Submittal Package via FTP site from Clearview Land Design, P.L. (District Engineer). (Email Chris.Fisher@clearviewland.com for link to FTP site.) Applicants must submit one original and two copies of the Qualifications Submittal Package by 5:00 PM on Monday, October 5, 2020. Hand written and electronic submissions will not be accepted. Address responses to: Clearview Land Design, P.L., 3010 W Azeele St, Suite 150, Tampa, Florida 33609, Attn: Chris Fisher.

Qualified firms will be selected based on experience, qualifications of personnel, and ability to perform construction services. Packages will be reviewed and rated by a qualifications committee. At that time, all qualified firms will be assigned a project and aggregate dollar limit for potential work under contract. All applicants will be promptly notified after the construction firms are selected. The pre-qualification decisions of the Board of Supervisors shall be valid for a period of two (2) years, after which the Board of Supervisors may either extend the prequalification period for an additional two (2) years or open the prequalification process again.

Qualified firms will be eligible to bid or propose on construction projects subject to the firms' project and aggregate limits. Failure to pre-qualify may preclude North River Ranch Community Development District from awarding construction contracts to any non-prequalified firm. All firms interested in bidding on construction contracts to be let by NRRCCDD are strongly encouraged to submit for pre-qualification. However, NRRDD is not obligated to select prequalified firms, and at its sole discretion reserves the right to solicit bids or proposals from non-prequalified contractors for specific projects in the best interests of NRRCCDD.

Applicants may contact the District Engineer, Chris Fisher, Clearview Land Design, P.L. at Chris.Fisher@clearviewland.com, until the qualifications submittal deadline for further information.

Chris Fisher

From: Chris Fisher
Sent: Friday, October 30, 2020 9:01 AM
To: 'Mark Roscoe'; 'Tom Panaseny'
Cc: 'Venessa Ripoll'; Vivian Carvalho; 'edvogler@voglerashton.com'; Mike Smirch
Subject: North River Ranch Bid Request

Good Morning All,

On behalf of The North River Ranch CDD, you are invited to bid on the development of the North River Ranch Phases IV-A & IV-B. A separate email with instructions for a virtual pre-bid meeting on November 10th, will follow this request. The following items have been uploaded to our FTP site for your use:

<https://www.dropbox.com/sh/6mhqzm7wxx0vbhz/AACpvlLoWMUhSKLUCDgRnKY3a?dl=0>

1. Full set of construction plans (PDF)
 2. CAD files
 3. Geotech Report
- Please provide a basic schedule through the completion of your bid. Assuming a start date of 1/4/2021

Please place your bids electronically no later than 5:00 P.M. Tuesday, November 24th, Please submit the bids to Chris Fisher (chris.fisher@clearviewland.com).

Quantities **will not** be provided for this project. Please submit your bids in an **excel file** as well as a PDF. If you have any questions, please contact myself at 813-223-3919.

Chris Fisher, P.E.



CLEARVIEW LAND DESIGN, P.L.

3010 W AZEELE STREET, SUITE 150

TAMPA, FL 33609

Office: 813-223-3919

Cell: 813-965-1268

Chris.Fisher@clearviewland.com

www.clearviewland.com

Chris Fisher

From: Chris Fisher
Sent: Wednesday, December 2, 2020 7:15 AM
To: 'Mark Roscoe'; 'Tom Panaseny'
Cc: 'Venessa Ripoll'; 'Vivian Carvalho'; 'edvogler@voglerashton.com'; Mike Smirch; 'K.C. Coulthart'; 'Adrian Galloway'; 'David Compton'; 'Andrew Goulish, PE, CGC'; 'Jeremy Rury'; 'Gregg Marsh'; 'Don Woodruff'; 'Dennis Holt'; 'gator@frederickderrcompany.com'
Subject: RE: North River Ranch Bid Request
Attachments: Revised North River Ranch Phase IV-A_Quantities.xls

Good Afternoon All,

Attached are some revisions to the bid tabs. Here is a summary of the revisions:

Added

- Anchor Block retaining wall – 240 LF
- Final Grading – 1 LS
- Mitered End Section 42" RCP – 1 EA
- Storm Testing & Dewatering- 1 LS
- Reclaim Water Testing- 1 LS

Removed

- Structure 87 was on the tabs twice- One was removed

Additional Information

- Please include an alternative bid price for FDOT Bank Shell

Please let me know if you need any additional questions. Thank you

Chris Fisher

From: Chris Fisher
Sent: Monday, November 23, 2020 10:32 AM
To: 'Mark Roscoe' <mroscoe@nealland.com>; 'Tom Panaseny' <TPanaseny@nealland.com>
Cc: 'Venessa Ripoll' <ripollv@pfm.com>; 'Vivian Carvalho' <carvalhov@pfm.com>; 'edvogler@voglerashton.com'; Mike Smirch <Mike.Smirch@clearviewland.com>; 'K.C. Coulthart' <kccoulthart@mackenzieco.com>; 'Adrian Galloway' <agalloway@ripaconstruction.com>; 'David Compton' <dcompton@ripaconstruction.com>; 'Andrew Goulish, PE, CGC' <agoulish@jonmhallcompany.com>; 'Jeremy Rury' <Jeremy@hjcontracting.com>; 'Gregg Marsh' <gregg@forsbergconstruction.com>; 'Don Woodruff' <donw@woodruffandsons.com>; 'Dennis Holt' <dennish@woodruffandsons.com>; 'gator@frederickderrcompany.com' <gator@frederickderrcompany.com>
Subject: RE: North River Ranch Bid Request

Good Morning All,

Here is the schedule for construction out at North River Ranch. Thank you

Chris Fisher

INSTRUCTIONS TO BIDDERS

PART 1 **DEFINED TERMS**

1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

- A. Issuing Office – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

PART 2 **COPIES OF BIDDING DOCUMENTS**

2.01 Complete sets of the bidding documents in the number and for the purchase or deposit sum, if any, stated in the Advertisement or Invitation to Bid may be obtained from DISTRICT ENGINEER (unless another issuing office is designated in the Advertisement or Invitation to Bid). The deposit will be refunded only if provided for in the Advertisement/Invitation to Bidders, to Bidders who submit a bona fide bid and return the bidding documents in good condition within ten days after opening of bids. Unless stated otherwise in the Advertisement/Invitation to Bidders the purchase of plans shall be non-refundable.

2.02 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.

2.03 OWNER and ENGINEER in making copies of bidding documents available on the above terms do so only for the purpose of obtaining bids for the work and do not confer a license or grant for any other use.

PART 3 **QUALIFICATIONS OF BIDDERS**

3.01 To demonstrate qualifications to perform the work, each Bidder must be prepared to submit within five days after bid opening upon OWNER's request detailed written evidence such as financial data, previous experience, present commitments and other such data as may be called for below (or in the Supplementary Instructions). Each bid must contain evidence of Bidder's qualification to do business in the state where the project is located or covenant to obtain such qualifications prior to award of the contract.

PART 4 **EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

4.01 Subsurface and Physical Conditions

- A. 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 Bidding Documents.

**NORTH RIVER RANCH PHASES IV-A & IV-B
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2. Those drawings of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that ENGINEER has used in preparing the Bidding Documents.
- B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by OWNER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions have been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions or information contained in such reports or shown or indicated in such drawings.
- 4.02 Underground Facilities
- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by owners of such Underground Facilities, including OWNER, or others.
- 4.03 Hazardous Environmental Condition
- A. The Supplementary Conditions identify those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that ENGINEER has used in preparing the Bidding Documents.
 - B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by OWNER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
- 4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in Paragraph 4.06 of the General Conditions.
- 4.05 On request, OWNER will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

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- 4.06 Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by OWNER or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, OWNER will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such other work.
- 4.07 It is the responsibility of each Bidder before submitting a Bid to:
- A. Examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda.
 - B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 of the General Conditions, and (2) reports and drawings of Hazardous Environmental Conditions at the Site which have been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.
 - E. Obtain and carefully study (or accept consequences of not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto.
 - F. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
 - G. Become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.
 - H. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

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- I. Promptly give ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to Bidder.
 - J. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.
- 4.09 Any protest regarding any portion of the original Contract Documents and Technical Specifications (including but not limited to the Instructions to Proposers or any other portion of the documents) or any addendum thereto, must be filed in writing, at the offices of the DISTRICT ENGINEER, within seventy-two (72) hours after the receipt of any Addendum. The formal protest setting forth with particularity the facts and law upon which the protest is based shall be filed within seven (7) calendar days after the initial notice of protest was filed. Failure to timely file a notice of protest or failure to timely file a formal written protest shall constitute a waiver of any right to object or protest with respect to aforesaid plans, specifications or contract documents or addenda and submission of a bid or proposal shall evidence Bidders agreement with all such plans, specifications, documents or addenda.

PART 5 PRE-BID CONFERENCE

- 5.01 A Pre-Bid conference will be held at 10:00 AM local time on Tuesday, August 13, 2019 at the office of Stantec. Representatives of OWNER and ENGINEER will be present to discuss the Project. Bidders are required to attend and participate in the conference. ENGINEER will transmit to all prospective Bidders of record such Addenda as ENGINEER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective

PART 6 SITE AND OTHER AREAS

- 6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR.

PART 7 **INTERPRETATIONS AND ADDENDA**

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to ENGINEER in writing. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.

PART 8 **BID SECURITY**

- 8.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of five percent of Bidder's maximum Bid price and in the form of a certified check or bank money order or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after 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 other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.
- 8.03 Bid security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

PART 9 **CONTRACT TIMES**

- 9.01 The number of days within which, or the dates by which, the work is to be substantially completed and also completed and ready for final payment (the term "Contract Times" is defined in paragraph 1.01.A.14 of the General Conditions) are set forth in the Agreement (or incorporated therein by reference to the attached Bid Form).

PART 10 **LIQUIDATED DAMAGES**

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

PART 11 **SUBSTITUTE AND “OR-EQUAL” ITEMS**

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or “or-equal” items. Whenever it is specified or described in the Bidding Documents that a substitute or “or-equal” item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement.

PART 12 **SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to OWNER in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to OWNER a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute.

12.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

12.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom CONTRACTOR has reasonable objection.

PART 13 **PREPARATION OF BID**

13.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from DISTRICT ENGINEER or the issuing office.

13.02 All blanks on the Bid Form shall be completed by printing in ink or by typewriter and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each unit price item listed therein.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

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- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.
- 13.06 A Bid by an individual shall show the Bidder's name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown below the signature.
- 13.08 All names shall be typed or printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.10 The address and telephone number for communications regarding the Bid shall be shown.
- 13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

PART 14 BASIS OF BID: COMPARISON OF BIDS

- 14.01 Unit Price
 - A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.
 - B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.
 - C. Discrepancies between 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. Discrepancies between words and figures will be resolved in favor of the words.
- 14.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in Paragraph 11.02 of the General Conditions.
- 14.03 Bid prices will be compared after adjusting for differences in the time designated by Bidders for Substantial Completion. The adjusting amount will be determined at the rate set forth in the Contract Documents for liquidated damages for failing to achieve Substantial

Completion for each day before or after the desired date appearing in Article 6 of the Bid Form.

PART 15 SUBMITTAL OF BID

- 15.01 The Bid Form is to be completed and submitted with the Bid security and the addenda.
- 15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the issuing office.

PART 16 MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid 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 prior to the date and time for the opening of Bids.
- 16.02 If within 24 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 its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

PART 17 OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the Advertisement for Bids and, unless obviously non-responsive, read aloud publicly.

PART 18 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

PART 19 EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder.

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OWNER also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

- 19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 19.03 In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 19.04 In evaluating Bidders, OWNER will consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 19.05 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications, and financial ability of proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.
- 19.06 If the Contract is to be awarded, OWNER will award the Contract to the Bidder whose Bid is in the best interests of the Project.

PART 20 **CONTRACT SECURITY AND INSURANCE**

- 20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it shall be accompanied by such bonds and insurance certificates.

PART 21 **SIGNING OF AGREEMENT**

- 21.01 When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER. Within ten days thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

PART 22 **SALES AND USE TAXES**

- 22.01 OWNER is exempt from Florida state sales and use taxes on materials and equipment to be incorporated in the Work. However, said taxes shall be included in the Bid. Refer to Paragraph SC-6.10 of the Supplementary Conditions for additional information.

PART 23 RETAINAGE

23.01 Provisions concerning retainage are set forth in the Agreement.

END OF SECTION

INSTRUCTIONS TO BIDDERS

PART 1 **DEFINED TERMS**

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. Issuing Office – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.

PART 2 **COPIES OF BIDDING DOCUMENTS**

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- 2.02 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.
- 2.03 OWNER and ENGINEER in making copies of bidding documents available on the above terms do so only for the purpose of obtaining bids for the work and do not confer a license or grant for any other use.

PART 3 **QUALIFICATIONS OF BIDDERS**

- 3.01 To demonstrate qualifications to perform the work, each Bidder must be prepared to submit within five days after bid opening upon OWNER's request detailed written evidence such as financial data, previous experience, present commitments and other such data as may be called for below (or in the Supplementary Instructions). Each bid must contain evidence of Bidder's qualification to do business in the state where the project is located or covenant to obtain such qualifications prior to award of the contract.

PART 4 **EXAMINATION OF CONTRACT DOCUMENTS AND SITE**

- 4.01 Subsurface and Physical Conditions
- A. 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 Bidding Documents.

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

B. Copies of reports and drawings referenced in Paragraph 4.01.A will be made available by OWNER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.02 of the General Conditions have been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions or information contained in such reports or shown or indicated in such drawings.

4.02 Underground Facilities

A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to OWNER and ENGINEER by owners of such Underground Facilities, including OWNER, or others.

4.03 Hazardous Environmental Condition

A. The Supplementary Conditions identify those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that ENGINEER has used in preparing the Bidding Documents.

B. Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by OWNER to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in Paragraph 4.06 of the General Conditions.

4.05 On request, OWNER will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

**NORTH RIVER RANCH PHASES IV-A & IV-B
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- 4.06 Reference is made to Article 7 of the Supplementary Conditions for the identification of the general nature of other work that is to be performed at the Site by OWNER or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, OWNER will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such other work.
- 4.07 It is the responsibility of each Bidder before submitting a Bid to:
- A. Examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda.
 - B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 of the General Conditions, and (2) reports and drawings of Hazardous Environmental Conditions at the Site which have been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.
 - E. Obtain and carefully study (or accept consequences of not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto.
 - F. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
 - G. Become aware of the general nature of the work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Bidding Documents.
 - H. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.

**NORTH RIVER RANCH PHASES IV-A & IV-B
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- I. Promptly give ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by ENGINEER is acceptable to Bidder.
 - J. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by ENGINEER are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.
- 4.09 Any protest regarding any portion of the original Contract Documents and Technical Specifications (including but not limited to the Instructions to Proposers or any other portion of the documents) or any addendum thereto, must be filed in writing, at the offices of the DISTRICT ENGINEER, within seventy-two (72) hours after the receipt of any Addendum. The formal protest setting forth with particularity the facts and law upon which the protest is based shall be filed within seven (7) calendar days after the initial notice of protest was filed. Failure to timely file a notice of protest or failure to timely file a formal written protest shall constitute a waiver of any right to object or protest with respect to aforesaid plans, specifications or contract documents or addenda and submission of a bid or proposal shall evidence Bidders agreement with all such plans, specifications, documents or addenda.

PART 5 PRE-BID CONFERENCE

- 5.01 A Pre-Bid conference will be held at 10:00 AM local time on Tuesday, August 13, 2019 at the office of Stantec. Representatives of OWNER and ENGINEER will be present to discuss the Project. Bidders are required to attend and participate in the conference. ENGINEER will transmit to all prospective Bidders of record such Addenda as ENGINEER considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective

PART 6 SITE AND OTHER AREAS

- 6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by OWNER unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by CONTRACTOR.

PART 7 **INTERPRETATIONS AND ADDENDA**

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to ENGINEER in writing. Interpretations or clarifications considered necessary by ENGINEER in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by ENGINEER as having received the Bidding Documents. Questions received less than ten days prior to the date for opening of Bids may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by OWNER or ENGINEER.

PART 8 **BID SECURITY**

- 8.01 A Bid must be accompanied by Bid security made payable to OWNER in an amount of five percent of Bidder's maximum Bid price and in the form of a certified check or bank money order or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.
- 8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after 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 other Bidders whom OWNER believes to have a reasonable chance of receiving the award may be retained by OWNER until the earlier of seven days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.
- 8.03 Bid security of other Bidders whom OWNER believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

PART 9 **CONTRACT TIMES**

- 9.01 The number of days within which, or the dates by which, the work is to be substantially completed and also completed and ready for final payment (the term "Contract Times" is defined in paragraph 1.01.A.14 of the General Conditions) are set forth in the Agreement (or incorporated therein by reference to the attached Bid Form).

PART 10 **LIQUIDATED DAMAGES**

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

PART 11 **SUBSTITUTE AND “OR-EQUAL” ITEMS**

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration of possible substitute or “or-equal” items. Whenever it is specified or described in the Bidding Documents that a substitute or “or-equal” item of material or equipment may be furnished or used by CONTRACTOR if acceptable to ENGINEER, application for such acceptance will not be considered by ENGINEER until after the Effective Date of the Agreement.

PART 12 **SUBCONTRACTORS, SUPPLIERS, AND OTHERS**

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to OWNER in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to OWNER a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by OWNER. If OWNER or ENGINEER, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, OWNER may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute.

12.02 If apparent Successful Bidder declines to make any such substitution, OWNER may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which OWNER or ENGINEER makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to OWNER and ENGINEER subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

12.03 CONTRACTOR shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom CONTRACTOR has reasonable objection.

PART 13 **PREPARATION OF BID**

13.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from DISTRICT ENGINEER or the issuing office.

13.02 All blanks on the Bid Form shall be completed by printing in ink or by typewriter and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each unit price item listed therein.

13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

**NORTH RIVER RANCH PHASES IV-A & IV-B
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- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown below the signature.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown below the signature.
- 13.06 A Bid by an individual shall show the Bidder's name and official address.
- 13.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown below the signature.
- 13.08 All names shall be typed or printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form.
- 13.10 The address and telephone number for communications regarding the Bid shall be shown.
- 13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located or covenant to obtain such qualification prior to award of the Contract. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

PART 14 BASIS OF BID: COMPARISON OF BIDS

- 14.01 Unit Price
 - A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.
 - B. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.
 - C. Discrepancies between 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. Discrepancies between words and figures will be resolved in favor of the words.
- 14.02 The Bid price shall include such amounts as the Bidder deems proper for overhead and profit on account of cash allowances, if any, named in the Contract Documents as provided in Paragraph 11.02 of the General Conditions.
- 14.03 Bid prices will be compared after adjusting for differences in the time designated by Bidders for Substantial Completion. The adjusting amount will be determined at the rate set forth in the Contract Documents for liquidated damages for failing to achieve Substantial

Completion for each day before or after the desired date appearing in Article 6 of the Bid Form.

PART 15 SUBMITTAL OF BID

- 15.01 The Bid Form is to be completed and submitted with the Bid security and the addenda.
- 15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid shall be addressed to the issuing office.

PART 16 MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid 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 prior to the date and time for the opening of Bids.
- 16.02 If within 24 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 its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

PART 17 OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the Advertisement for Bids and, unless obviously non-responsive, read aloud publicly.

PART 18 BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 18.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but OWNER may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

PART 19 EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 OWNER reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. OWNER further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible. OWNER may also reject the Bid of any Bidder if OWNER believes that it would not be in the best interest of the Project to make an award to that Bidder.

**NORTH RIVER RANCH PHASES IV-A & IV-B
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OWNER also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

- 19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 19.03 In evaluating Bids, OWNER will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 19.04 In evaluating Bidders, OWNER will consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 19.05 OWNER may conduct such investigations as OWNER deems necessary to establish the responsibility, qualifications, and financial ability of proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the Contract Documents.
- 19.06 If the Contract is to be awarded, OWNER will award the Contract to the Bidder whose Bid is in the best interests of the Project.

PART 20 **CONTRACT SECURITY AND INSURANCE**

- 20.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth OWNER's requirements as to performance and payment bonds and insurance. When the Successful Bidder delivers the executed Agreement to OWNER, it shall be accompanied by such bonds and insurance certificates.

PART 21 **SIGNING OF AGREEMENT**

- 21.01 When OWNER gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to OWNER. Within ten days thereafter, OWNER shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

PART 22 **SALES AND USE TAXES**

- 22.01 OWNER is exempt from Florida state sales and use taxes on materials and equipment to be incorporated in the Work. However, said taxes shall be included in the Bid. Refer to Paragraph SC-6.10 of the Supplementary Conditions for additional information.

PART 23 RETAINAGE

23.01 Provisions concerning retainage are set forth in the Agreement.

END OF SECTION



DECEMBER 04, 2020

NORTH RIVER RANCH PHASES 4A & 4B

NORTH RIVER RANCH COMMUNITY DEVELOPMENT DISTRICT



December 04, 2020

North River Ranch Community Development District
C/O Clearview Land Design
Attention: Chris Fisher
3010 W. Azeele Street, Suite 150
Tampa, Florida 33609

RE: North River Ranch Phases 4A & 4B

Dear Mr. Fisher:

RIPA & Associates is pleased to submit our Contractor Qualifications and proposal for the North River Ranch Phases 4A & 4B project. This proposal was prepared in accordance with plans and specifications provided by your firm.

RIPA is Tampa Bay's leader in site development. Our resources and experience will allow us to deliver this project in an expeditious and cost effective manner. We clearly understand what it takes to successfully complete this project while focusing on safety and customer satisfaction.

If you should have any questions or concerns or need any additional information, feel free to call me at our office or on my cell phone at 813.417.6920. We thank you for the opportunity to bid this project and we look forward to working with you in the near future.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Andrew Babchick".

RIPA & ASSOCIATES, LLC
Andrew Babchick
Estimator

NORTH RIVER RANCH PHASE IV-A

Bid Summary

STREETS AND DRAINAGE:	\$ 7,234,542.15
MISCELLANEOUS:	\$ 243,000.00
SANITARY SEWER COLLECTION SYSTEM:	\$ 1,517,675.25
WATER DISTRIBUTION SYSTEM:	\$ 536,815.65
RECLAIMED WATER DISTRIBUTION SYSTEM:	\$ 367,966.75
TOTAL:	\$ 9,899,999.80
TOTAL DAYS TO (SUBSTANTIAL / FINAL) COMPLETION:	226 / 261 calender days

The principle items of work and quantities shown herein are approximate only and are furnished solely for the purpose of showing the approximate scope of work to be performed. The Contractor shall examine the site of the work and shall inform himself fully in regard to all conditions pertaining to the place where the work is to be done. It is the Contractor's responsibility to perform his own quantity take-off and shall submit his bid showing the items of all work, unit prices and lump sum price for all work called for in the plans, specifications and contract documents based on his assessment of the work to be performed. No claim shall be made against Clearview Land Design P.L., nor the Owner for any errors or omissions in the Contractor's items of work and quantities, and the unit prices shall only be used as a basis of payment to items specifically added or deleted upon change order approved by Owner and Clearview Land Design P.L. and as a basis for computing partial pay estimates when called for in the contract.

NOTE: Unit prices for all underground construction shall include all costs necessary to comply with the "TRENCH SAFETY ACT" and conform with all Occupational Safety and Health Administration (OSHA) regulations.

Contractor's Name: (Typed or Printed)

Address:

By _____
(Signature)

Title: _____

Telephone No.: _____

Job No.

File Name P:\Company\Engineering Documents & Programs\Hillsborough County\Quantities

Date:

KM/

STREETS AND DRAINAGE

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
1.	Mobilization	LS	1	\$ 194,000.00	\$ 194,000.00
2.	Compliance with requirements of FDEP Generic NPDES Permit	LS	1	\$ 29,000.00	\$ 29,000.00
4.	Clearing and Grubbing	LS	1	\$ 648,000.00	\$ 648,000.00
5.	Solid Sod (Side slopes steeper than 5:1)	SY	115,625	\$ 2.50	\$ 289,062.50
6.	Grass and Mulch (Side slopes flatter than 5:1)	SY	353,500	\$ 0.30	\$ 106,050.00
7.	Unclassified Excavation	LS	1	INCLUDED	\$ -
8.	Demolition Work/Removal & Disposal Off-site*	LS	1	\$ 5,900.00	\$ 5,900.00
9.	Wetland and Deleterious Soils Removal (if required)**	LS	1	(\$30.00 / CY)	\$ -
10.	Berm Construction	LS	1	\$ 17,500.00	\$ 17,500.00
	Anchor Block Retaining Wall	LF	240	\$ 305.00	\$ 73,200.00
	Final Grading	LS	1	\$ 69,000.00	\$ 69,000.00
10.	Off-site Fill (if required)***	LS	STANDARD	(\$12.00 / CY)	\$ -
11.	Off-site Fill (In Place-Compacted)	LS	1	(\$5.00 / CY)	\$ -
12.	Earthwork to Mass Grade/Balance Phases IV-A & IV-B				
	Cut	CY	294100	\$ 3.25	\$ 955,825.00
	Fill	CY		\$ -	\$ -
12.	Earthwork to Stockpile for future phases				
	Cut	CY	826750	\$ 2.50	\$ 2,066,875.00
	Fill	CY		\$ -	\$ -
*Demo/Removal and off-site removal shall be according to all Federal, State & Local regulations.					
*On-Site well(s) to be abandoned per SWFWMD Regulation 40D-3.531					
**Provide anticipated earthwork quantity for informational purposes					
***Provide anticipated quantity, total price per yard and price breakdown to purchase, haul & place for informational purposes					

STREETS AND DRAINAGE

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
12.	Signing and Pavement Marking	LS	1	\$ 34,526.40	\$ 34,526.40
12.	Saw-Cut and Match Existing Pavement	EA	2	\$ 980.00	\$ 1,960.00
12.	Drainage Swale	LF	280	\$ 6.20	\$ 1,736.00
12.	Staked Erosion Control	LF	28530	\$ 1.25	\$ 35,662.50
12.	1.75" Asphaltic Surface Course (Type S-9.5)	SY	22950	\$ 12.50	\$ 286,875.00
12.	6" FDOT Base Course****	SY	19000	\$ 16.20	\$ 307,800.00
12.	8" FDOT Base Course****	SY	3950	\$ 20.85	\$ 82,357.50
12.	12" Stabilized Subgrade	SY	3950	\$ 4.60	\$ 18,170.00
12.	6" Stabilized Subgrade	SY	19000	\$ 4.60	\$ 87,400.00
12.	5' Concrete Sidewalk (non-reinforced)	LF	2784	\$ 20.25	\$ 56,376.00
12.	10' Concrete Sidewalk (non-reinforced)	LF	850	\$ 40.45	\$ 34,382.50
12.	ADA Sidewalk Ramp per FDOT Index 522 (Complete)	EA	30	\$ 1,000.00	\$ 30,000.00
<p>****The contractor shall base his bid on construction the crushed concrete base thickness as shown in plans. The crushed concrete base shall meet or exceed the requirements of the County Engineer. The materials shall be produced from a source approved by the Florida Department of Transportation or the County Engineer.</p>					
<p>**** The contractor shall base his bid on constructing the soil cement base with full blend borrow material with a minimum seven (7) day compressive strength of 300 psi for _____ inch (") soil cement base. If additional cement material is required at the time of construction due to the contractor wanting to mix when slightly excessive moisture is present or if "wet spots" are encountered, then the contractor is responsible for the additional cost.</p>					

STREETS AND DRAINAGE

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
12.	Concrete Miami Curb (Type A) W/Stabilization	LF	16300	\$ 13.10	\$ 213,530.00
99.	Concrete Curb and Gutter (Type F) W/Stabilization	LF	1600	\$ 16.00	\$ 25,600.00
99.	Concrete Curb (Type D) W/Stabilization	LF	600	\$ 11.65	\$ 6,990.00
12.	"T" Type Turnaround (install)	EA	1	\$ 2,750.00	\$ 2,750.00
12.	Dead End Barricade (install)	EA	7	\$ 175.00	\$ 1,225.00
****The contractor shall base his bid on construction the crushed concrete base thickness as shown in plans.					
The crushed concrete base shall meet or exceed the requirements of the County Engineer. The materials shall be produced from a source approved by the Florida Department of Transportation or the County Engineer.					
*****All cost for stabilization under curb shall be included in the unit price for the construction of the curb.					

STREETS AND DRAINAGE

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
12.	6" Underdrain	LF	2420	\$ 15.50	\$ 37,510.00
12.	6" Underdrain Cleanout	EA	14	\$ 290.00	\$ 4,060.00
12.	8" HDPE	LF	640	\$ 17.35	\$ 11,104.00
12.	12" HDPE	LF	180	\$ 21.20	\$ 3,816.00
12.	15" RCP	LF	290	\$ 38.30	\$ 11,107.00
12.	18" HDPE	LF	850	\$ 35.75	\$ 30,387.50
12.	18" RCP	LF	3065	\$ 46.45	\$ 142,369.25
12.	24" RCP	LF	1980	\$ 61.45	\$ 121,671.00
12.	30" RCP	LF	3040	\$ 84.60	\$ 257,184.00
12.	36" RCP	LF	195	\$ 110.00	\$ 21,450.00
12.	42" RCP	LF	185	\$ 140.00	\$ 25,900.00
12.	48" RCP	LF	250	\$ 170.00	\$ 42,500.00
12.	54" RCP	LF	385	\$ 220.00	\$ 84,700.00
12.	66" RCP	LF	400	\$ 385.00	\$ 154,000.00
12.	Inline Drain	EA	6	\$ 900.00	\$ 5,400.00
12.	Drain Basin	EA	4	\$ 900.00	\$ 3,600.00

STREETS AND DRAINAGE

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
12.	FDOT Type I Curb Inlet (3'- 6" x 4'-0" Box)	EA	4	\$ 5,350.00	\$ 21,400.00
12.	Type 1 Curb Inlet	EA	40	\$ 4,250.00	\$ 170,000.00
12.	Type 1 Curb Inlet (w/"J" Bottom)	EA	3	\$ 6,000.00	\$ 18,000.00
12.	Type C Ditch Bottom Grate Top Inlet	EA	6	\$ 2,200.00	\$ 13,200.00
12.	Type P Manhole	EA	15	\$ 2,750.00	\$ 41,250.00
12.	Type J Manhole	EA	1	\$ 7,900.00	\$ 7,900.00
12.	Control Structure 29 "Type C" (complete)	LS	1	\$ 3,900.00	\$ 3,900.00
12.	Control Structure 31 "Type H" (complete)	LS	1	\$ 15,500.00	\$ 15,500.00
12.	Control Structure 34 "Type H" (complete)	LS	1	\$ 15,500.00	\$ 15,500.00
12.	Control Structure 46 "Type C" (complete)	LS	1	\$ 3,900.00	\$ 3,900.00
12.	Control Structure 54 "Type C" (complete)	LS	1	\$ 3,900.00	\$ 3,900.00
12.	Control Structure 56 "Type H" (complete)	LS	1	\$ 15,500.00	\$ 15,500.00
12.	Control Structure 73 "Type C" (complete)	LS	1	\$ 3,900.00	\$ 3,900.00
12.	Control Structure 83A "Type C" (complete)	LS	1	\$ 3,900.00	\$ 3,900.00
12.	Control Structure 124 "Type D" (complete)	LS	1	\$ 5,250.00	\$ 5,250.00
12.	Control Structure 126 "Type C" (complete)	LS	1	\$ 3,900.00	\$ 3,900.00
12.	Control Structure 128 "Type H" (complete)	LS	1	\$ 15,500.00	\$ 15,500.00
12.	Control Structure 130 "Type D" (complete)	LS	1	\$ 5,250.00	\$ 5,250.00
12.	Control Structure 132 "Type D" (complete)	LS	1	\$ 5,250.00	\$ 5,250.00
12.	Control Structure 149 "Type D" (complete)	LS	1	\$ 5,250.00	\$ 5,250.00

STREETS AND DRAINAGE

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
12.	Mitered End Section 15" RCP	EA	0	\$ 1,500.00	\$ -
12.	Mitered End Section 18" RCP	EA	9	\$ 1,600.00	\$ 14,400.00
12.	Mitered End Section 24" RCP	EA	9	\$ 1,750.00	\$ 15,750.00
12.	Mitered End Section 30" RCP	EA	5	\$ 2,900.00	\$ 14,500.00
12.	Mitered End Section 36" RCP	EA	3	\$ 3,550.00	\$ 10,650.00
12.	Mitered End Section 42" RCP	EA	1	\$ 4,300.00	\$ 4,300.00
12.	Mitered End Section 48" RCP	EA	1	\$ 4,900.00	\$ 4,900.00
12.	Mitered End Section 54" RCP	EA	1	\$ 7,550.00	\$ 7,550.00
12.	Mitered End Section 66" RCP	EA	1	\$ 10,000.00	\$ 10,000.00
12.	Geospillway "A" 4 feet wide	LS	1	\$ 1,800.00	\$ 1,800.00
12.	Geospillway "B" 3 feet wide	LS	1	\$ 1,800.00	\$ 1,800.00
12.	Geospillway "C" 14 feet wide	LS	1	\$ 5,400.00	\$ 5,400.00
12.	Geospillway "D" 8 feet wide	LS	1	\$ 3,600.00	\$ 3,600.00
12.	Geospillway "E" 14 feet wide	LS	1	\$ 5,400.00	\$ 5,400.00
12.	Geospillway "F" 30 feet wide	LS	1	\$ 12,500.00	\$ 12,500.00
12.	Geospillway "G" 12 feet wide	LS	1	\$ 5,400.00	\$ 5,400.00
12.	Plug 18" RCP Structure # 92	EA	1	\$ 310.00	\$ 310.00
12.	Plug 18" RCP Structure # 95	EA	1	\$ 310.00	\$ 310.00
12.	Plug 30" RCP Structure # 87	EA	1	\$ 310.00	\$ 310.00
12.	Structure # 87 with Temp Concrete Tops	EA	1	\$ 4,250.00	\$ 4,250.00
12.	Structure # 95 with Temp Concrete Tops	EA	1	\$ 4,250.00	\$ 4,250.00
	Storm Testing and Dewatering	LS	1	\$ 90,500.00	\$ 90,500.00
				TOTAL	\$ 7,234,542.15

By: _____

Checked: _____

Engineer: _____

MISCELLANEOUS ITEMS					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
1.	Boundary Survey, PCPs & Lot Corners - (By others)			BY OTHERS	\$ -
2.	Bid Bond	LS	1	INCLUDED	\$ -
2.	Performance Bond	LS	1	\$ 125,000.00	\$ 125,000.00
3.	Record Drawing - (By Others)			BY OTHERS	\$ -
4.	Survey Stakeout - (By Others)			BY OTHERS	\$ -
5.	Soils, Materials Testing- (By Others)			BY OTHERS	\$ -
6.	Water System Testing & Inspection	LS	1	\$ 36,000.00	\$ 36,000.00
7.	Reclaimed Water System Testing & Inspection	LS	1	\$ 27,500.00	\$ 27,500.00
8.	Sewer System Testing & Inspection	LS	1	\$ 54,500.00	\$ 54,500.00
				TOTAL	\$ 243,000.00
By: _____					
Checked: _____					
Engineer: _____					

SANITARY SEWAGE COLLECTION SYSTEM					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
1.	8" PVC (0' - 6' Cut)	LF	705	\$ 27.45	\$ 19,352.25
3.	8" PVC (6' - 8' Cut)	LF	1300	\$ 28.50	\$ 37,050.00
5.	8" PVC (8' - 10' Cut)	LF	1450	\$ 29.75	\$ 43,137.50
4.	8" C 900 PVC (8' - 10' Cut)	LF	20	\$ 44.05	\$ 881.00
6.	8" PVC (10' - 12' Cut)	LF	1185	\$ 31.40	\$ 37,209.00
6.	8" PVC (12' - 14' Cut)	LF	1240	\$ 35.00	\$ 43,400.00
6.	8" PVC (14' - 16' Cut)	LF	405	\$ 61.50	\$ 24,907.50
8.	8" PVC (16' - 18' Cut)	LF	320	\$ 75.75	\$ 24,240.00
9.	8" PVC (18' - 20' Cut)	LF	490	\$ 89.50	\$ 43,855.00
10.	8" PVC (20' - 22' Cut)	LF	255	\$ 105.00	\$ 26,775.00
12.	8" PVC (22' - 24' Cut)	LF	380	\$ 130.00	\$ 49,400.00
19.	Standard Manhole (0' - 6' Cut)	EA	5	\$ 3,450.00	\$ 17,250.00
20.	Standard Manhole (6' - 8' Cut)	EA	4	\$ 3,600.00	\$ 14,400.00
21.	Standard Manhole (8' - 10' Cut)	EA	7	\$ 4,000.00	\$ 28,000.00
22.	Standard Manhole (10' - 12' Cut)	EA	5	\$ 4,400.00	\$ 22,000.00
23.	Standard Manhole (12' - 14' Cut)	EA	3	\$ 4,900.00	\$ 14,700.00
24.	Standard Manhole (14' - 16' Cut)	EA	2	\$ 5,700.00	\$ 11,400.00
25.	Standard Manhole (16' - 18' Cut)	EA	1	\$ 6,050.00	\$ 6,050.00

SANITARY SEWAGE COLLECTION SYSTEM

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
25.	Polymer Manhole (10' - 12' Cut)	EA	1	\$ 25,500.00	\$ 25,500.00
22.	Polymer Manhole (18' - 20' Cut)	EA	2	\$ 31,000.00	\$ 62,000.00
23.	Polymer Manhole (20' - 22' Cut)	EA	1	\$ 33,000.00	\$ 33,000.00
24.	Polymer Manhole (22' - 24' Cut)	EA	3	\$ 26,000.00	\$ 78,000.00
25.	Water Tight Manhole Seals	LS	1	\$ 5,000.00	\$ 5,000.00
8.	8" Plug and Stub	EA	4	\$ 815.00	\$ 3,260.00
	6" x 4" Reducer	EA	1	INCLUDED	\$ -
	8" x 6" Reducer	EA	1	\$ 405.00	\$ 405.00
4.	8" x 6" Tee Wye	EA	2	\$ 900.00	\$ 1,800.00
4.	8" x 8" Tee Wye	EA	1	\$ 900.00	\$ 900.00
4.	16" x 8" Tee Wye	EA	1	\$ 1,600.00	\$ 1,600.00

SANITARY SEWAGE COLLECTION SYSTEM

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
23.	Single Sewer Service Connection *	EA	12	\$ 710.00	\$ 8,520.00
25.	Double Sewer Service Connection*	EA	116	\$ 1,250.00	\$ 145,000.00
29.	Pump Station (complete) (30 - 32' Cut)	LS	1	\$ 486,500.00	\$ 486,500.00
30.	6" PVC Forcemain	LF	1480	\$ 17.45	\$ 25,826.00
31.	6" Plug	EA	1	\$ 290.00	\$ 290.00
31.	6" Plug Valve	EA	3	\$ 2,000.00	\$ 6,000.00
	Air Release Valve	EA	2	\$ 4,800.00	\$ 9,600.00
3.	8" PVC Forcemain	EA	4340	\$ 21.10	\$ 91,574.00
31.	8" Plug	EA	1	\$ 880.00	\$ 880.00
31.	8" Plug Valve	EA	8	\$ 2,500.00	\$ 20,000.00
3.	16" PVC Forcemain	EA	20	\$ 58.15	\$ 1,163.00
3.	16" Plug Valve	EA	1	\$ 12,500.00	\$ 12,500.00
3.	16" Steel Casing	LF	100	\$ 110.00	\$ 11,000.00
1.	6" 45° Bend	EA	21	\$ 400.00	\$ 8,400.00
1.	8" 45° Bend	EA	25	\$ 575.00	\$ 14,375.00
12.	8" 90° Bend	EA	1	\$ 575.00	\$ 575.00
19.	Joint Restraint	LS	1	INCLUDED	\$ -
				TOTAL	\$ 1,517,675.25

By: _____

Checked: _____

Engineer: _____

* Shall consist of all bends, tees, plugs, cleanouts or any other appurtenances comprising a complete service.

** Shall consist of all pipe, valves, tees, fittings or any other appurtenances comprising a complete working assembly.

WATER DISTRIBUTION SYSTEM					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
1.	Remove Plug and Connect to Existing 24" Water Main	LS	1	\$ 2,500.00	\$ 2,500.00
2.	Connect to Existing 12 " Water Main	LS	1	\$ 1,400.00	\$ 1,400.00
3.	Temporary Construction Meter Assembly	LS	1	\$ 6,050.00	\$ 6,050.00
4.	8" x 24" Tapping Valve and Sleeve	EA	1	\$ 9,150.00	\$ 9,150.00
8.	8" PVC Water Main	LF	8760	\$ 22.15	\$ 194,034.00
9.	10" DIP Water Main	LF	370	\$ 53.00	\$ 19,610.00
15.	8" Gate Valve	EA	38	\$ 1,500.00	\$ 57,000.00
15.	10" Gate Valve	EA	2	\$ 2,100.00	\$ 4,200.00
15.	8" 22½ ° Bend	EA	5	\$ 295.00	\$ 1,475.00
15.	8" 45 ° Bend	EA	28	\$ 295.00	\$ 8,260.00
15.	10" x 8" Tee	EA	1	\$ 535.00	\$ 535.00
15.	8" x 8" Tee	EA	6	\$ 460.00	\$ 2,760.00
15.	8" x 8" Cross	EA	2	\$ 485.00	\$ 970.00

WATER DISTRIBUTION SYSTEM

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
15.	Fire Hydrant Assembly *	EA	12	\$ 5,500.00	\$ 66,000.00
15.	Blow-off Assembly *	EA	1	\$ 11,500.00	\$ 11,500.00
15.	Water Service to Lift Station	LS	1	\$ 3,250.00	\$ 3,250.00
15.	Single Service (Short) **	EA	34	\$ 660.00	\$ 22,440.00
15.	Double Service (Short) **	EA	52	\$ 1,000.00	\$ 52,000.00
15.	Single Service (Long) **	EA	23	\$ 755.00	\$ 17,365.00
15.	Double Service (Long) **	EA	43	\$ 1,150.00	\$ 49,450.00
15.	Shock Pad (Contingency)	EA		\$ 2,000.00	\$ -
15.	Joint Restraint	LS	1	INCLUDED	\$ -
ADD TEMPORARY BLOWOFF ASSEMBLY		EA	7	\$ 980.95	\$ 6,866.65
				TOTAL	\$ 536,815.65

By: _____

Checked: _____

Engineer: _____

* Shall consist of all pipe, valves, tees, fittings or any other appurtenances comprising a complete working assembly.
 ** Shall consist of all corporation stops, curb stops, pipe or tubing or any other appurtenances comprising a complete water service.

RECLAIMED WATER DISTRIBUTION SYSTEM

Item No.	Description	Unit	Estimated Quantity	Unit Price	Total Amount
99.	Water Service Sleeve	LF	0	\$ -	\$ -
99.	Single Service (Short) **	EA	10	\$ 655.00	\$ 6,550.00
999.	Double Service (Short) **	EA	49	\$ 1,000.00	\$ 49,000.00
9.	Single Service (Long) **	EA	21	\$ 750.00	\$ 15,750.00
9.	Double Service (Long) **	EA	60	\$ 1,100.00	\$ 66,000.00
9.	Shock Pad (Contingency)	EA		\$ 2,000.00	\$ -
99.	Joint Restraint	LS		INCLUDED	\$ -
ADD	2" PVC SLEEVE	LF	300	\$ 6.50	\$ 1,950.00
ADD	4" PVC SLEEVE	LF	300	\$ 8.25	\$ 2,475.00
ADD	6" PVC SLEEVE	LF	300	\$ 9.75	\$ 2,925.00
				TOTAL	\$ 367,966.75

By: _____

Checked: _____

Engineer: _____

* Shall consist of all pipe, valves, tees, fittings or any other appurtenances comprising a complete working assembly.

** Shall consist of all corporation stops, curb stops, pipe or tubing or any other appurtenances comprising a complete water service.

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A310

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we
Ripa & Associates, LLC
1409 Tech Boulevard, Suite 1
Tampa, FL 33619

as Principal, hereinafter called the Principal, and
Travelers Casualty and Surety Company of America
1 North Dale Mabry Highway, Suite 1005
Tampa, FL 33609

a corporation duly organized under the laws of the State CT
as Surety, hereinafter called the Surety, are held and firmly bound unto
North River Ranch Community Development District
c/o Clearview Land Design, P.L.
3010 W. Azeele Street, Suite 150
Tampa, FL 33609

as Obligee, hereinafter called the Obligee, in the sum of **Five Percent of Amount Bid in U.S. Dollars (\$5%)** for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has submitted a bid for
North River Ranch Phases IV-A & IV-B – Manatee County, FL.
Site Development Improvements

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed December 04, 2020

Michelle Barthle (Witness)

Ripa & Associates, LLC

Chris LaFace



Travelers Casualty and Surety Company of America

David B. Shick, Attorney-In-Fact and Licensed FL Resident Agent #A241176



(Witness)

SURETY BONDS

Performance Bonds | Contract Bonds | License Bonds | Court Bonds



**Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company**

POWER OF ATTORNEY


KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **David B. Shlick** of **TAMPA Florida**, their true and lawful Attorney-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **3rd** day of **February, 2017**.



State of Connecticut

City of Hartford ss.

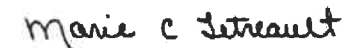
By: 
Robert L. Raney, Senior Vice President

On this the **3rd** day of **February, 2017**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, and that he, as such, being authorized so to do, executed 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 hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2021**




Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

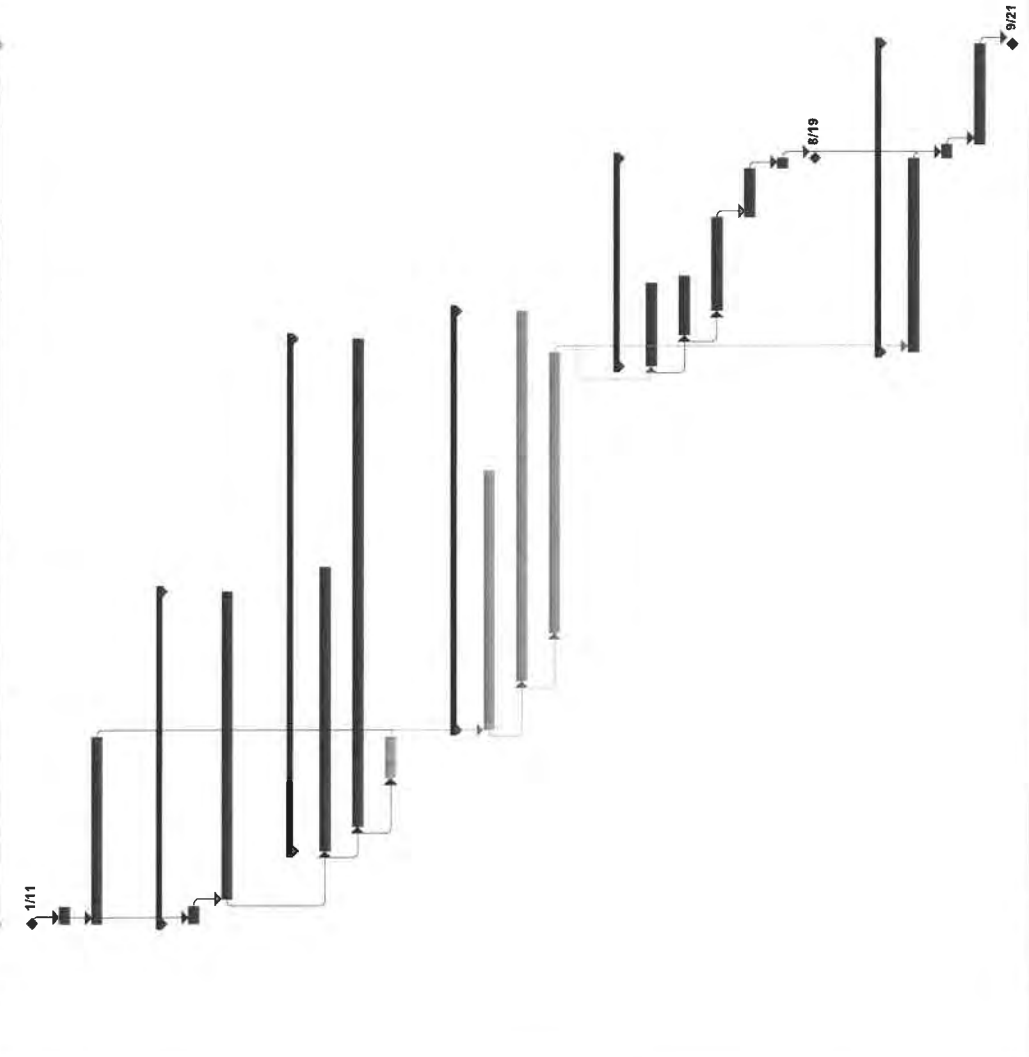
Dated this **4th** day of **December**, **2020**




Kevin E. Hughes, Assistant Secretary

**To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney-in-Fact and the details of the bond to which the power is attached.**

ID	Task Name	Duration	Start	Finish
0	North River Ranch Ph 4A	179 days	Mon 1/11/21	Tue 9/21/21
1	Notice to Proceed / Receipt of All Permits	0 days	Mon 1/11/21	Mon 1/11/21
2	Mobilization	5 days	Mon 1/11/21	Fri 1/15/21
3	Submittals / Shop Drawings / Precast Production	40 days	Mon 1/11/21	Fri 3/05/21
4				
5	Site Preparation	70 days	Mon 1/11/21	Fri 4/16/21
6	Silt Fence / Tree Baricades	5 days	Mon 1/11/21	Fri 1/15/21
7	Cleaning & Grubbing	65 days	Mon 1/18/21	Fri 4/16/21
8				
9	Earthwork	105 days	Mon 2/1/21	Mon 6/28/21
10	Stripping & Discing Site	60 days	Mon 2/1/21	Fri 4/23/21
11	Site Excavation	100 days	Mon 2/8/21	Mon 6/28/21
12	Dewatering for Sanitary Sewer	10 days	Mon 2/22/21	Fri 3/5/21
13				
14	Utility Installation	85 days	Mon 3/8/21	Tue 7/6/21
15	Wet Well & Sanitary Sewer	55 days	Mon 3/8/21	Fri 5/21/21
16	Storm Drainage	75 days	Mon 3/22/21	Tue 7/6/21
17	Pressure Pipe	58 days	Mon 4/5/21	Thu 6/24/21
18				
19	Roadway Installation	43 days	Mon 6/21/21	Thu 8/19/21
20	Subgrade Preparation	17 days	Mon 6/21/21	Wed 7/14/21
21	Curb Installation	12 days	Wed 6/30/21	Fri 7/16/21
22	Base & Prime	19 days	Wed 7/7/21	Mon 8/2/21
23	Utility Testing / Underdrain	10 days	Tue 8/3/21	Mon 8/16/21
24	Asphalt Paving	5 days	Tue 8/17/21	Thu 8/19/21
25	Substantial Completion	0 days	Thu 8/19/21	Thu 8/19/21
26				
27	Final Completion / Close Out	61 days	Fri 6/25/21	Tue 9/21/21
28	Final Grading / Sodding / Sidewalk	39 days	Fri 6/25/21	Thu 8/19/21
29	Striping & Signage	2 days	Fri 8/20/21	Mon 8/23/21
30	Final Inspection / Punchlist / Reinspection	20 days	Tue 8/24/21	Tue 9/21/21
31	Final Completion	0 days	Tue 9/21/21	Tue 9/21/21



Project: North River Ranch Ph 4A
Date: Fri 12/4/20

Task Split Milestone Summary

Project Summary External Milestone Inactive Milestone

Inactive Summary Manual Task Duration-only Manual Summary Rollup

Manual Summary Start-only Finish-only External Tasks

External Milestone Progress Deadline



**CORPORATE
HEADQUARTERS**
1409 Tech Boulevard, Suite 1
Tampa, FL 33619



VENICE OFFICE
108 Triple Diamond Boulevard
North Venice, FL 34275



FLEET DEPARTMENT
10149 Fisher Avenue
Tampa, FL 33619



GENERAL INFORMATION

Email: info@ripaconstruction.com

HUMAN RESOURCES:

Email: hr@ripaconstruction.com
(813) 663-6720
(813) 663-6726

NEW PROJECTS:

Chris LaFace
Email: claface@ripaconstruction.com

813.623.6777 Phone
813.663.6721 Fax
WWW.RIPATAMPA.COM

FLORIDA LICENSED CONTRACTOR

CGC009082
CUC057369
PCC056774
Contractor V 893536-0001-2007
CUC1224980
FPC12-000056



**SECTION 00520
AGREEMENT**

THIS AGREEMENT is by and between North River Ranch Community Development District
(OWNER) and Ripa & Associates
(CONTRACTOR).

OWNER and CONTRACTOR, in consideration of the mutual covenants set forth herein, agree as follows:

ARTICLE 1 WORK

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

North River Ranch Phase IVA

ARTICLE 2 THE PROJECT

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

All labor, materials, equipment, and all incidentals for construction of the roadway, drainage and utilities.

ARTICLE 3 ENGINEER

3.01 The Project has been designed by Clearview Land Design, P.L. (ENGINEER), who is to act as OWNER's representative, assume all duties and responsibilities, and have the rights and authority assigned to ENGINEER in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 CONTRACT TIMES

4.01 Time of the Essence

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 Days to Achieve Substantial Completion and Final Payment

A. The Work to be performed under this Agreement shall be commenced no later than ten (10) days from the date of the Notice to Proceed and will be Substantially Completed within 226 calendar days after the date the Contract Times commence to run as noted in the Notice to Proceed: The work will be completed and ready for Final

Payment within 261 calendar days from the date the Contract Times commence to run as noted in the Notice to Proceed:

4.03 Liquidated Damages

- A. CONTRACTOR and OWNER recognize that time is of the essence of this Agreement and that OWNER will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Should the CONTRACTOR, or in case of his default, the Surety fail to complete the Work within the time stipulated in the contract or within such extra time as may have been granted by OWNER, the CONTRACTOR, or in case of his default, the Surety shall pay to OWNER, not as a penalty but as liquidated damages, the amount of \$500 per day for the first two weeks of said breach or default and \$1,000 per day thereafter.

ARTICLE 5 CONTRACT PRICE

- 5.01 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the **SUM** of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of that item.

As provided in Paragraph 11.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by ENGINEER as provided in Paragraph 9.07 of the General Conditions. Unit prices have been computed as provided in Paragraph 11.03 of the General Conditions.

Total of all estimated prices: Nine Million Eight Hundred Ninety Nine thousand Nine hundred Ninety Nine Dollars and Eighty Cents (\$9,899,999.80).

ARTICLE 6 PAYMENT PROCEDURES

6.01 Submittal and Processing of Payments

- A. CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

6.02 Progress Payments; Retainage

- A. OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR's Applications for Payment on or about the 10th day of each month during performance of the Work as provided in Paragraphs 6.02.A.1 and 6.02.A.2 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements:

1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as ENGINEER may determine or OWNER may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions:
 - a. Ninety percent of Work completed (with the balance being retainage).
2. Upon Substantial Completion, OWNER shall pay an amount sufficient to increase total payments to CONTRACTOR to 90 percent of the Work completed, less such amounts as ENGINEER shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions.

6.03 Final Payment

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said Paragraph 14.07.

ARTICLE 7 INTEREST

7.01 All payments due and not made within the time prescribed by Section 218.735, Florida Statutes, shall bear interest from thirty (30) days after the due date at the rate of one percent (1%) per month on the unpaid balance in accordance with Section 218.74, Florida Statutes.

ARTICLE 8 CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:
- A. CONTRACTOR has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
 - B. CONTRACTOR has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. CONTRACTOR is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. CONTRACTOR has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in Paragraph 4.02 of the General Conditions and (2) reports and drawings of a Hazardous Environmental Condition, if any, at the Site which has been identified in the Supplementary Conditions as provided in Paragraph 4.06 of the General Conditions.

- E. CONTRACTOR has obtained and carefully studied (or assumes responsibility for doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by CONTRACTOR, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto.
- F. CONTRACTOR does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- G. CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the Site, reports and drawings identified in the Contract Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Contract Documents.
- I. CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities, or discrepancies that CONTRACTOR has discovered in the Contract Documents, and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.
- J. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
 - 1. This Agreement
 - 2. Performance Bond
 - 3. Payment Bond
 - 4. Other Bonds
 - 5. General Conditions
 - 6. Supplementary Conditions (and special provisions)
 - 7. Technical Specifications

8. Drawings
 9. Addenda
 10. Exhibits to this Agreement
 - a. Bid Package
 - b. CONTRACTOR's Bid Form and Bid Proposal
 - c. Documentation submitted by CONTRACTOR prior to Notice of Award
 11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed
 - b. Work Change Directives.
 - c. Change Order(s).
- B. The documents listed in Paragraph 8.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 8.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 COMPLIANCE WITH PUBLIC RECORDS LAWS.

10.01 Contractor understands and agrees that all documents of any kind provided to the District in connection with this Agreement may be public records, and, accordingly, Contractor agrees to comply with all applicable provisions of Florida law in handling such records, including but not limited to Section 119.0701, *Florida Statutes*. Contractor acknowledges that the designated public records custodian for the District is Vivian Carvalho ("Public Records Custodian"). Among other requirements and to the extent applicable by law, the Contractor shall 1) keep and maintain public records required by the District to perform the service; 2) upon request by the Public Records Custodian, provide the District with the requested public records or allow the records to be inspected or copied within a reasonable time period at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes; 3) ensure that public records which are exempt or confidential, and exempt from public records disclosure requirements, are not disclosed except as authorized by law for the duration of the contract term and following the contract term if the Contractor does not transfer the records to the Public Records Custodian of the District; and 4) upon completion of the contract, transfer to the District, at no cost, all public records in Contractor's possession or, alternatively, keep, maintain and meet all applicable requirements for retaining public records pursuant to Florida laws. When such public records are transferred by the Contractor, the Contractor shall 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 District in a format that is compatible with Microsoft Word or Adobe PDF formats.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, *FLORIDA STATUTES*, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (407) 382-3256, CARVALHOV@PFM.COM, OR 12051 CORPORATE BOULEVARD, ORLANDO, FL 32817.

ARTICLE 11 MISCELLANEOUS

11.01 Terms

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

11.02 Assignment of Contract

- A. CONTRACTOR agrees that he or she shall not be allowed to assign any rights under or interest in the contract without the written consent of the OWNER; and, specifically, but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically states 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.

11.03 Successors and Assigns

- A. OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

11.04 Severability

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon OWNER and CONTRACTOR, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

11.05 Other Provisions

None.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER and CONTRACTOR and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or on their behalf.

This Agreement will be effective on _____, 2021 (which is the Effective Date of the Agreement).

OWNER:

North River Ranch Community Development District

By: _____

Title: _____

[CORPORATE SEAL]

Attest: _____

Title: _____

Address for giving notices:

Ms. Vivian Carvalho

Public Financial Management

12051 Corporate Blvd.
Orlando, FL 32817

CONTRACTOR:

Ripa & Associates

By: _____

Title: _____

[CORPORATE SEAL]

Attest: _____

Title: _____

Address for giving notices:

License No.: _____

(Where applicable)

Agent for service or process: _____

(If CONTRACTOR is a corporation or a partnership, attach evidence of authority to sign.)

Progress Estimate

Contractor's Application

For (contract):		Application Number:												
Application Period:		Application Date:												
A		B		C		D		E		F		G		
Specification Section No.	Description	Item	Scheduled Value	Work Completed		Materials Presently Stored (not in C or D)	Total Completed and Stored to Date (C + D + E)	% (F) (B - F)	Balance to Finish (B - F)					
				From Previous Application (C + D)	This Period (D)									
Totals														

Progress Estimate

Contractor's Application

For (contract):		Application Number:								
Application Period:		Application Date:								
A		B	C	D	E	F	G			
Bid Item No.	Description	Bid Quantity	Unit Price	Bid Value	Estimated Quantity Installed	Value	Materials Presently Stored (not in C)	Total Completed and Stored to Date (D + E)	% (F) B	Balance to Finish (B - F)
	Item									
Totals										

Change Order No. _____

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:	Date of Contract:	
Contractor:	Engineer's Project No.:	

The Contract Documents are modified as follows upon execution of this Change Order:

Description: _____

Attachments: (List documents supporting change): _____

CHANGE IN CONTRACT PRICE:

CHANGE IN CONTRACT TIMES:

<p>Original Contract Price: \$ _____</p> <p>[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____: \$ _____</p> <p>Contract Price prior to this Change Order: \$ _____</p> <p>[Increase] [Decrease] of this Change Order: \$ _____</p> <p>Contract Price incorporating this Change Order: \$ _____</p>	<p>Original Contract Times: <input type="checkbox"/> Working days <input type="checkbox"/> Calendar days Substantial completion (days or date): _____ Ready for final payment (days or date): _____</p> <p>[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____: Substantial completion (days): _____ Ready for final payment (days): _____</p> <p>Contract Times prior to this Change Order: Substantial completion (days or date): _____ Ready for final payment (days or date): _____</p> <p>[Increase] [Decrease] of this Change Order: Substantial completion (days or date): _____ Ready for final payment (days or date): _____</p> <p>Contract Times with all approved Change Orders: Substantial completion (days or date): _____ Ready for final payment (days or date): _____</p>
--	---

RECOMMENDED:	ACCEPTED:	ACCEPTED:
By: _____ Engineer (Authorized Signature)	By: _____ Owner (Authorized Signature)	By: _____ Contractor (Authorized Signature)
Date: _____	Date: _____	Date: _____
Approved by Funding Agency (if applicable): _____	Date: _____	

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the Controlling Law.

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by

ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE

and

Issued and Published Jointly By



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NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

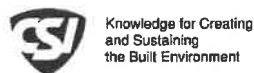
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The Associated General Contractors of America



Construction Specifications Institute

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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.

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 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).

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.

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 (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 adaptation 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.

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
- 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:

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 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;

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.

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.

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.

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.

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:

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.

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;

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 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.

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;

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.

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;

5.07 *Waiver of Rights*

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

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 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.

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

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 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.

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 Drawings 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 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 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 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.

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.

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 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.

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 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, expeditors, 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.

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 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 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.

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 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 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 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 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

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 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.

**SECTION 00800
SUPPLEMENTARY CONDITIONS AND
SPECIAL PROVISIONS**

1. SUPPLEMENTARY CONDITIONS

These Supplementary Conditions amend or supplement the General Conditions of the Construction Contract (EJCDC C-700, 2002 ed.) 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.

SC-1. DEFINITIONS AND TERMINOLOGY

The terms used in these Supplementary Conditions which are defined in the General Conditions of the Construction Contract (EJCDC C-700, 2002 ed.) have the meanings assigned to them in the General Conditions. Additionally, the following definitions shall also apply:

OWNER:	North River Ranch Community Development District
ENGINEER:	Clearview Land Design, P.L..

Delete the following sentence from paragraph 1.01.A.12 of the General Conditions: "Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not contract documents."

Replace with the following:

"Approved Shop Drawings are not contract documents."

Add the following sentence to paragraph 1.01.A.27 of the General Conditions:

"When requested by OWNER, the Notice of Award may be issued by the ENGINEER."

Add the following sentence to paragraph 1.01.A.28 of the General Conditions:

"When requested by OWNER, the Notice to Proceed may be issued by the ENGINEER."

SC-2.02. COPIES OF DOCUMENTS

In the first line of paragraph 2.02 of the General Conditions, change the term "...ten..." to read "...three..."

SC-2.03 COMMENCEMENT OF CONTRACT TIMES; NOTICE TO PROCEED

Delete paragraph 2.03A of the General Conditions in its entirety and replace with the following:

- A. The date of commencement of the Work is the date established in a Notice

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to Proceed. If there is no Notice to Proceed, it shall be the date of the OWNER-CONTRACTOR Agreement or such other date as may be established therein.”

SC-2.05 BEFORE STARTING CONSTRUCTION

Add the following new subparagraphs to paragraph 2.05 of the General Conditions:

- B. CONTRACTOR shall perform no portion of the Work at any time without Contract Documents or, where specified, approved Shop Drawings for such portion of the Work.
- C. By executing the Contract, CONTRACTOR represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.

Delete paragraph 2.05.A and subparagraphs 2.05.A.1, 2.05.A.2, and 2.05.A.3 of the General Conditions in their entirety and replace with the following:

- A. At the request of OWNER and/or ENGINEER, CONTRACTOR shall submit to the ENGINEER for review and approval a preliminary Schedule of Values and Progress (Project) Schedule. Upon approval by the OWNER and ENGINEER and within ten (10) days after the Effective Date of the Agreement, CONTRACTOR shall submit to ENGINEER the following:
 - 1. a completed Progress (Project) Schedule indicating the time (number of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents. The Progress (Project) Schedule shall not exceed the time stipulated as the Contract Time for the fully complete and functioning project from beginning to end, unless extended by the OWNER in writing in the OWNER's absolute and sole discretion.
 - 2. a completed Schedule of Values for all of the Work, which will include quantities and process 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 the performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of work.
 - 3. a preliminary schedule of Shop Drawings and Sample submittals for approval by the ENGINEER, which will list each required submittal and the times for submitting, reviewing and processing each submittal.

SC-4.02. SUBSURFACE AND PHYSICAL CONDITIONS

Delete subparagraph 4.02.A.1 of the General Conditions and replace with the following:

4.02.A.1 SUBSURFACE CONDITIONS

No reports of subsurface conditions were available or used by the ENGINEER in the preparation of the drawings and specifications. Therefore, no technical data from reports is available from the OWNER to the CONTRACTOR.

Delete subparagraph 4.02.A.2 of the General Conditions and replace with the following:

4.02.A.2 PHYSICAL CONDITIONS

No drawings of subsurface conditions were available or used by the ENGINEER in the preparation of the drawings and specifications. Therefore, no technical data from reports is available from the OWNER to the CONTRACTOR.

4.02.A.3 The entire site is available to any Proposer for surface or subsurface investigation at a time to be mutually determined.

4.02.A.4 Reference above is made to reports of explorations and tests of subsurface conditions at the site that have been utilized by ENGINEER in preparation of the Contract Documents. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports as said information relates to a specific boring site or testing location at the time of said testing. However, as detailed below, CONTRACTOR shall have full responsibility with respect to subsurface conditions at the site and will, at CONTRACTOR's expense, perform any and all additional testing as CONTRACTOR may deem necessary in order to submit to OWNER a total, Lump Sum Price.

4.02.B. LIMITED RELIANCE BY CONTRACTOR ON TECHNICAL DATA AUTHORIZED:

Add the following new paragraphs after paragraph 4.05.B.3 of the General Conditions:

4.02.C. Notwithstanding CONTRACTOR's ability to limitedly rely on the general accuracy of the "technical data", CONTRACTOR takes responsibility for any and all issues arising from unsuitable soils, including but not limited to, varying soil conditions, sinkholes, etc. Furthermore, no additional costs will be charged by CONTRACTOR for matters associated with unsuitable soils. CONTRACTOR warrants he has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the prosecuting of the work.

- 4.02.D. CONTRACTOR further warrants that the Contract amount is just and reasonable compensation for all the Work, including all foreseen and unforeseen risks, hazards, and difficulties in connection therewith, including any concealed conditions encountered in the performance of the Work below the surface of the ground at variance with conditions indicated by the Contract Documents or other Proposal Documents furnished to the CONTRACTOR for its information.

SC-4.03.C. POSSIBLE PRICE AND TIMES ADJUSTMENTS

Delete paragraph 4.03.C.1.b of the General Conditions in its entirety.

SC-4.04. UNDERGROUND FACILITIES

Revise the title of paragraph 4.04 of the General Conditions to read "Physical Conditions-Underground Facilities and Otherwise".

Add the following paragraph to this Subarticle 4.04

- 4.04.A.3 Notification of Utility Companies: The CONTRACTOR shall be responsible for notification of and cooperation with utility companies and agencies when the CONTRACTOR's operations are close to existing facilities in order to provide time for the utilities to stake the location of their existing facilities. This coordination effort shall be done in compliance with Florida Statutes Chapter 556, "Underground Facility Damage Prevention and Safety Act," latest revision. The CONTRACTOR shall cooperate with the utility company and provide schedules, etc., when requested.

Add the following subparagraph to this paragraph 4.04

4.04.C EXISTING FACILITIES AND NOTIFICATIONS

The drawings may indicate or may not indicate the presence of existing utilities or facilities in the project area. Existing above or underground utilities, structures, or facilities that are shown on the plans are based on the information made available to the ENGINEER. The existing facilities may be in locations different than those shown on the drawings. It shall be the responsibility of the CONTRACTOR to acquaint himself with the exact location and to avoid conflict with all existing facilities. CONTRACTOR shall provide actual depth and location of said facilities to the ENGINEER to evaluate their impact on the project. Where underground or aboveground utilities, structures, or facilities are damaged, they shall be immediately repaired to the specifications of the OWNER of the utility. If the OWNER of the utility elects to make such repairs with his own forces, CONTRACTOR shall make arrangements as to protect the OWNER from all damages. Where such conflicts are unavoidable, every effort shall be made to construct the work so as to cause as little interference as possible with services rendered by the structure disturbed.

SC-5.01. PERFORMANCE, PAYMENT, AND OTHER BONDS

Add the following language at the end of paragraph 5.01.B of the General Conditions:

In addition, each bond shall be on an OWNER approved form and shall contain the following language: "This Bond is hereby amended so that the provisions and limitations of Section 255.05, Florida Statutes, are incorporated by reference herein."

Add the following text after Subarticle 5.01.C. of the General Conditions:

D. Bid Security **is to be provided** by each CONTRACTOR in the amount of five percent of the maximum Bid price and will be in the form of:

i. A Bid Bond is required and shall have an A.M. Best Company rating of A or better.

The prescribed type of Bid Bond is included in these documents.

ii. A certified or bank cashier's check drawn to the order of the OWNER.

iii. Other form of Bid Bond

E. A Construction Performance Bond and a Construction Payment Bond each in an amount equal to the Contract Price **IS REQUIRED**.

The prescribed form of Construction Performance Bond and Payment Bond is included in these documents. The Construction Performance Bond and Payment Bond shall have an A.M. Best Company rating of A or better.

SC-5.04. CONTRACTORS LIABILITY INSURANCE

Delete paragraphs 5.04.A. and 5.04.B. of the General Conditions in their entirety and replace with the following:

The limits of liability for the insurance required by paragraph 5.04.A of the Standard General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations.

A. Workers' Compensation, etc. under paragraphs 5.04.A.1. and 5.04.A.2. of the Standard General Conditions:

i. State: Statutory

ii. Applicable Federal (e.g. Longshoreman, Jones Act): Statutory

iii. Employer's Liability: \$ 1,000,000

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B. CONTRACTOR's Liability Insurance under paragraphs 5.04.A.3., 5.04.A.4. and 5.04.A.5. of the Standard General Conditions which shall also include personal injury and advertising liability, contractual liability, completed operations and product liability coverages and eliminate the exclusion with respect to property under the care, custody and control of CONTRACTOR:

- i. General Aggregate (Except Products - Completed Operations) \$2,000,000
- ii. Products - Completed Operations Aggregate \$ 2,000,000
- iii. Personal and Advertising Injury (Per Person/Organization) \$ 1,000,000
- iv. Each Occurrence (Bodily Injury and Property Damage) \$ 1,000,000
- v. Limit Per Person Medical Expense \$ 5,000
- vi. Personal Injury Liability coverage
WILL INCLUDE Claims Arising Out of Employment
- vii. General Aggregate **WILL BE** Applicable Per Project
- viii. Property Damage Liability Insurance **WILL PROVIDE**
Coverage for Explosion, Collapse and
Underground Damage

C. 5.04.B.4 Contractual Liability

Contractual Liability under Paragraph 5.04.B.4 of the Standard General Conditions:

- i. General Aggregate \$ 2,000,000
- ii. Each Occurrence (Bodily Injury and Property Damage) \$ 1,000,000

D. 5.04.A.6 Automobile Liability

Automobile Liability, including owned, non-owned, and hired automobiles under Paragraph 5.04.A.6 of the Standard General Conditions

Bodily Injury

- \$ 1,000,000 Each Person
- \$ 1,000,000 Each Accident

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Property Damage:

\$ 1,000,000 Each Accident

- E. Liability coverage for the OWNER, ENGINEER, ENGINEER's Consultants and others listed in the Supplementary Conditions will be provided (subject to customary exclusions for professional liability) by endorsement as additional insureds on CONTRACTOR's Liability policies, per ISO form CG 2010 (1185) or its equivalent on a primary basis. Additional insured will be given 30 days written notice if the CONTRACTOR's policy is cancelled.

Additional insured coverage will be maintained for one year after the work is complete.

The following other persons (in addition to **OWNER, ENGINEER and ENGINEER's Consultants**) or entities are identified below in these Supplementary Conditions as additional insured under the required Liability Policies:

NAME	ADDRESS
<u>North River Ranch Community Development District 5800 Lakewood Ranch Blvd.</u>	
<u>and its Affiliates</u>	<u>Sarasota, FL 34240</u>

An original copy of the insurance certificate(s), naming the OWNER and ENGINEER as additional insured's will be provided by the CONTRACTOR prior to issuing Notice to Proceed.

- E. Umbrella/Excess Liability

General Aggregate	<u>\$ 2,000,000</u>
Each Occurrence	<u>\$ 2,000,000</u>

SC-5.06. PROPERTY INSURANCE

Delete paragraph 5.06.A and subparagraphs 5.06.A.1 through 5.06.A.7 of the General Conditions and replace with the following:

- A. CONTRACTOR 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 these Supplementary Conditions or required by Laws and Regulations). This insurance shall:
 - 1. Include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

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2. Be written on an “all-risk” or open peril or special causes of loss policy form that shall at least include insurance for physical loss and damage to the Work, temporary buildings, falsework and Work in transit and shall insure against at least the following perils: fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils 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 in transit for incorporation in the Work or 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 start up;
7. Be maintained in effect until Final Payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with thirty (30) days written notice to each other additional insured to whom a certificate has been issued; and
8. Property insurance to the full insurable value of the work in accordance with this paragraph 5.06 of the Standard General Conditions will be provided by CONTRACTOR and will be in the form of Completed Value. An installation floater can be used to satisfy this requirement.
9. Such Insurance will be subject to the following deductible amounts \$ 1,000 in accordance with paragraph 5.06.D of the General Conditions.
10. The same persons or entities shall be identified as named insured under Property Insurance Policies as under the liability policies.

SC-5.07 WAIVER OF RIGHTS

In the thirtieth line of paragraph 5.07.A of the General Conditions, change the term “...Owner...” to read “...Contractor...”.

SC-5.08 RECEIPT AND APPLICATION OF INSURANCE PROCEEDS

In the second and sixth lines of paragraph 5.08.A of the General Conditions, change the terms “...Owner...” to read “...Contractor...”.

In the first, fourth, fifth, ninth and eleventh lines of paragraph 5.08.B of the General Conditions, change the term "...Owner..." to read "Contractor..." .

SC-6.02 LABOR; WORKING HOURS

Delete paragraph 6.02.B of the General Conditions in its entirety and replace with the following; including new paragraphs 6.02.B.1 and 6.02.B.2:

- B. Except as otherwise required for the safety or protection of persons or the Work or property at the site or adjacent thereto, all Work at the site shall be performed during regular working hours. Regular working hours are defined as between 7:00 a.m. and 6:00 p.m., Monday through Saturday. CONTRACTOR will not be allowed overtime work or the performance of Work outside regular working hours or on Sundays or any legal holiday without giving written notice to ENGINEER within forty-eight (48) hours of such work.
 - 1. The CONTRACTOR shall be responsible, whether previously scheduled or not, for the payment of OWNER's cost of overtime inspection outside of the working hours described above. The CONTRACTOR will be required to pay for overtime inspection services on unscheduled work, work which is delayed by the CONTRACTOR's suppliers or subcontractors and any other work performed for the convenience of the CONTRACTOR as he deems necessary to meet the schedule.
 - 2. Costs for such overtime inspection shall be paid at by the CONTRACTOR. OWNER shall make monthly deductions from the CONTRACTOR's progress payments for the cost of overtime inspection. No payment shall be made directly to the inspector.

SC-6.08 PERMITS

In the ninth line of paragraph 6.08.A of the General Conditions, change the term "...Owner..." to read "...Contractor..." .

Add the following subparagraphs after paragraph 6.08.A:

6.08.B. The OWNER has obtained the following project permits or approvals as follows:

Agency	Permit Name	Permit No.	Comments/Status
Manatee County	Construction Plans	PLN-2006-045	
SWFWMD	ERP	43030935.024	Approved
FDEP	Water		

FDEP Wastewater

NOI Stormwater

6.08.C. ADDITIONAL PERMIT REQUIREMENT INFORMATION

The CONTRACTOR is responsible for obtaining all local, state and federal construction permits and licenses not furnished by the OWNER.

6.08.D. STORMWATER POLLUTION PREVENTION PLAN

The CONTRACTOR shall abide by all requirements of the Stormwater Pollution Prevention Plan as well as all applicable local, state and federal requirements. The OWNER has been provided a copy of the Stormwater Pollution Prevention Plan. The CONTRACTOR and all applicable subcontractors must sign CONTRACTOR's certification in the Stormwater Pollution Prevention Plan. The OWNER/Developer will submit the FDEP Notice of Intent (NOI) to Use Generic Permit for Stormwater Discharge from Large and Small Construction Activities Permits Application.

The OWNER/Developer has also submitted to the Southwest Florida Water Management District a Best Management Plan/Construction Surface Water Management Plan (CSWMP) in accordance with Section 2.8.4 of the SWFWMD Basis of Review.

Any modification required to the Stormwater Pollution Prevention Plan or CSWMP will be the CONTRACTOR's responsibility if changes in the field or to the plan are proposed by the CONTRACTOR.

SC-6.09. LAWS AND REGULATIONS

Add the following subparagraphs after paragraph 6.09.C:

6.09.D. (Insert utility department or company name.) REQUIREMENTS

All utility construction in the Manatee County service area or to be connected to their service area shall be in accordance with Manatee County standards, latest revision. All costs associated with compliance with these standards shall be borne by the CONTRACTOR and shall be incidental to construction.

SC-6.10 TAXES

Delete Paragraph 6.10.A and insert the following:

SC-6.10.A PROCUREMENT PROCEDURES FOR OWNER PURCHASED MATERIAL

1. General. The CONTRACTOR shall include Florida State Sales and other applicable taxes in its bid for material, supplies, and equipment (whether purchased or leased). For purposes of this section, materials, supplies and equipment shall be defined as "construction materials". The OWNER, being exempt from sales and use tax (hereinafter "sales taxes"), reserves the right to make direct purchases of various construction materials included in the CONTRACTOR's bid and/or contract. The OWNER reserves the right to require CONTRACTOR to assign some or all of its subcontracts or other agreements with material suppliers directly to OWNER. Any construction materials purchased by OWNER shall be referred to as "Owner Purchased Materials" and the responsibilities of both OWNER and CONTRACTOR relating to such Owner Purchased Materials shall be governed by the terms and conditions of the contract documents and of these procedures, with these procedures to take precedence over any other conditions or terms of the contract documents which are inconsistent or conflict with this section. Material suppliers shall be selected by the CONTRACTOR awarded the contract by the competitive bid process. OWNER purchasing of construction materials, if selected, will be administered as provided in this section.
2. Purchase Requisition Request Forms. At least ten calendar days prior to CONTRACTOR ordering construction materials, CONTRACTOR shall prepare and forward to OWNER a separate Purchasing Requisition Request Form for each supplier in the form attached hereto as Exhibit "A", specifically identifying the construction materials which CONTRACTOR plans to order from each supplier so that OWNER may, in its sole discretion, elect to purchase directly such construction materials.
3. Purchase Orders. After receipt of the Purchasing Requisition Request Form, the OWNER shall prepare Purchase Orders in the form attached hereto as Exhibit "B", for construction materials which the OWNER wishes to purchase directly. Purchase Orders shall require that the supplier provide required shipping and handling insurance. Purchase Orders shall also require the delivery of the Owner Purchased Materials on the delivery dates provided by the CONTRACTOR in the Purchasing Requisition Request Form. Pursuant to the Purchase Order, the supplier will provide to the CONTRACTOR the required quantities of construction material at the price established in the supplier's quote less any associated sales tax. CONTRACTOR is responsible for assuring suppliers comply with these requirements.

At least two calendar days prior to CONTRACTOR placing OWNER's order for the construction materials, OWNER shall forward Purchase Orders to CONTRACTOR for processing. Promptly upon receipt of the Owner Purchased Materials specified in each Purchase Order, CONTRACTOR shall verify the purchase of the Owner Purchased Materials in accordance with the terms of the Purchase Order and in a manner to assure timely delivery of the Owner Purchased Materials.

4. Notice of Reduction in Contract Price. On or about the last business day of each month, OWNER shall deliver to the CONTRACTOR a Notice of Reduction in

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Contract Price (hereinafter "Notice"). Each Notice shall list all Owner Purchased Materials for the respective month and the total price for all such construction materials, plus all sales taxes which would have been associated with such construction materials had the CONTRACTOR purchased the construction materials. Each Notice may also include the total price and sales tax (had CONTRACTOR purchased) for any previously purchased Owner Purchased Materials which for any reason were not previously deducted from the contract price. The contract price will be reduced automatically and as a ministerial task by the amount set forth in each Notice. Each Notice will also reflect the amended contract balance reflecting the deductions taken in said Notice.

The intent of this provision is to cause the contract price to be reduced automatically by the amount OWNER pays for Owner Purchased Materials plus the amount of applicable sales tax that would have been paid for such construction materials, had the CONTRACTOR or any other non-tax exempt entity purchased the construction materials. All savings of sales taxes shall accrue solely to the benefit of OWNER, and CONTRACTOR shall not benefit whatsoever from savings of any such taxes.

5. Payment for Owner Purchased Materials. In order to arrange for the prompt payment to suppliers, the CONTRACTOR shall provide to the OWNER a list indicating the acceptance of the Owner Purchased Materials within 15 days of receipt of said Owner Purchased Materials. The list shall include a copy of the applicable Purchase Orders, invoices, delivery tickets, written acceptance of the delivered items, and such other documentation as may be reasonably required by the OWNER. Upon receipt of the appropriate documentation, the OWNER shall prepare a check drawn to the supplier based upon the receipt of data provided. OWNER will make payment to each supplier. The CONTRACTOR agrees to assist the OWNER to immediately obtain appropriate partial or final release of waivers. OWNER shall be responsible for the full payment of all valid and due invoices for Owner Purchased Materials and shall not be entitled to retain the standard ten percent amount of the progress payment due to the CONTRACTOR as is otherwise provided for in the contract documents.

6. CONTRACTOR Responsibilities. CONTRACTOR shall be fully responsible for all matters relating to ordering, storing, protecting, receipt, and handling for all construction materials including Owner Purchased Materials, in accordance with these procedures including, but not limited to, verifying correct quantities, verifying documents of orders in a timely manner, coordinating purchases, providing and obtaining all warranties and guarantees required by the contract documents, inspection and acceptance of the construction materials at the time of delivery, and loss or damage to the construction materials following acceptance of construction materials, due to the negligence of the CONTRACTOR. The CONTRACTOR shall coordinate delivery schedules, sequence of delivery, loading orientation, and other arrangements normally required by the CONTRACTOR for the construction materials furnished including Owner Purchased Materials. The CONTRACTOR shall provide all services required for the unloading, handling and storage of construction materials through installation including Owner Purchased Materials. The CONTRACTOR agrees to indemnify and hold harmless the OWNER from any and

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all claims of whatever nature resulting from non-payment for Owner Purchased Materials arising from CONTRACTOR actions.

- 6.1 Inspection and Documentation. As Owner Purchased Materials are delivered to the job site, CONTRACTOR shall visually inspect all shipments from the suppliers, and approve the vendor's invoice for construction materials delivered. The CONTRACTOR shall assure that each delivery of Owner Purchased Material is accompanied by documentation adequate to identify the Purchase Order against which the purchase is made. This documentation may consist of a delivery ticket and an invoice from the supplier conforming to the Purchase Order together with such additional information as the OWNER may require. The CONTRACTOR will then forward all such invoices to the OWNER. On or about the 15th and last day of each month (or the next succeeding business day), CONTRACTOR shall review all invoices submitted by all suppliers of Owner Purchased Materials delivered to the project sites during that month and either concur or object to the OWNER's issuance of payment to the suppliers, based upon CONTRACTOR's records of Owner Purchased Materials delivered to the site and whether any defects or non-conformities exist in such Owner Purchased Materials.
- 6.2 Warranties, Guarantees, Repairs and Maintenance. The CONTRACTOR shall be responsible for obtaining and managing all warranties and guarantees for all construction materials as required by the contract documents and shall fully warrant all construction materials including all Owner Purchased Materials. OWNER's purchase of various construction materials shall not in any manner impact or reduce CONTRACTOR's duty to warrant said construction materials. The OWNER may forward all repair, maintenance, non-conforming construction materials calls, or any other issues relating to the construction materials to the CONTRACTOR for resolution with the appropriate supplier, vendor, or subcontractor. The CONTRACTOR shall resolve all such calls or issues.
- 6.3 Records and Accountings. The CONTRACTOR shall maintain records of all Owner Purchased Materials it incorporates into the work from the stock of Owner Purchased Materials in its possession. The CONTRACTOR shall account monthly to the OWNER for any Owner Purchased Materials delivered into the CONTRACTOR's possession, indicating portions of all such construction materials which have been incorporated into the work.
- 6.4 Defective or Non-conforming Construction Materials. The CONTRACTOR shall insure that Owner Purchased Materials conform to specifications, and determine prior to incorporation into the work if such construction materials are defective or non-conforming, whether such construction materials are identical to the construction materials ordered, and match the description on the bill of lading. If the CONTRACTOR discovers defective or non-conforming Owner Purchased Material upon such visual inspection, the CONTRACTOR shall not utilize such non-conforming or defective construction materials in the work and instead shall promptly notify the OWNER of the defective or non-conforming

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conditions so repair or replacement of such construction materials can occur without any undue delay or interruption to the Project. If the CONTRACTOR fails to adequately and properly perform such inspection or otherwise incorporates into the Project defective or non-conforming Owner Purchased Materials, the condition of which it either knew or should have known by performance of an inspection, CONTRACTOR shall be responsible for all damages to OWNER resulting from CONTRACTOR's incorporation of such construction materials into the project, including liquidated or delay damages.

7. Title. Notwithstanding the transfer of Owner Purchased Materials by the OWNER to the CONTRACTOR's possession, as bailee for the OWNER, the OWNER shall retain legal and equitable title to any and all Owner Purchased Materials.
8. Insurance and Risk of Loss. The CONTRACTOR shall purchase and maintain Builder's Risk Insurance sufficient to protect against any loss or damage to Owner Purchased Materials. Such insurance shall cover the full value of any Owner Purchased Materials not yet incorporated into the Project during the period between the time the OWNER first takes title to any such Owner Purchased Materials and the time when the last of such Owner Purchased Materials is incorporated into the project or consumed in the process of completing the Project.
9. No Damages for Delay. The OWNER shall in no way be liable for, and CONTRACTOR waives all claims for, any damages relating to or caused by alleged interruption or delay due to ordering or arrival of Owner Purchased Materials, defects, or other problems of any nature with such construction materials, late payment for such construction materials, or any other circumstance associated with Owner Purchased Materials, regardless of whether OWNER's conduct caused, in whole or in part, such alleged damages. The foregoing waiver by CONTRACTOR includes damages for acceleration and inefficiencies. CONTRACTOR accepts from OWNER as further and specific consideration for the foregoing waivers, OWNER's undertaking to pay for and finance all Owner Purchased Materials.

EXHIBIT "A"

PURCHASE REQUISITION REQUEST FORM

- 1. Contract Person for the material supplier.
NAME: _____
ADDRESS: _____
TELEPHONE NUMBER: _____
- 2. Manufacturer or brand, model or specification number of the item.

- 3. Quantity needed as estimated by CONTRACTOR. _____
- 4. The price quoted by the supplier for the construction materials identified above.
\$ _____
- 5. The sales tax associated with the price quote. \$ _____
- 6. Shipping and handling insurance cost. \$ _____
- 7. Delivery dates as established by CONTRACTOR. _____

OWNER: _____

Authorized Signature (Title) _____ Date _____

CONTRACTOR: _____

Authorized Signature _____ Date _____

SC-6.12 RECORD DOCUMENTS

Delete the last sentence of paragraph 6.12.A of the General Conditions in its entirety and replace with the following:

These shall be available to ENGINEER for examination during construction and shall be delivered to ENGINEER for OWNER upon Substantial Completion of the Work.

SC-6.13. SAFETY AND PROTECTION

Add the following language at the end of paragraph 6.13.A.3 of the General Conditions:

In compliance with current laws, the CONTRACTOR or subcontractor performing trench excavation work on the Project shall comply with the applicable trench safety standards.

Add a new paragraph immediately after paragraph 6.13.A.3 of the General Conditions as follows:

6.13.A.4 MAINTENANCE OF TRAFFIC WITHIN THE CONTRACT AREA

6.13.A.4.a The CONTRACTOR shall maintain both vehicular and pedestrian traffic, protect the public from all damage to person and property and minimize inconveniences to the residents and businesses adjacent to the contract area for the duration of the contract. The CONTRACTOR's attention is directed to the various requirements of the State, County and municipal agencies that govern the work to be performed in their respective rights-of-way. The CONTRACTOR will be required to contact each governing agency prior to bidding in order to ascertain their requirements for the maintenance and protection of vehicular and pedestrian traffic through the respective work areas, and to conform to said requirements thereto.

6.13.A.4.b Traffic shall be maintained over a reasonably smooth travel way, which shall be so marked by signs, delineators and/or other methods that a person who has no knowledge of conditions can safely, and with a minimum of discomfort and inconvenience, ride, drive or walk over all or any portion of the work under construction where traffic is to be maintained.

6.13.A.4.c The CONTRACTOR shall provide adequate signs, barricades, flashing lights, flagmen and watchmen and take all necessary precautions for the protection of the work and the safety of the public. Traffic control warning signs and barricades shall comply with the provisions of the Florida Department of Transportation, Manual on Traffic Controls and Safe Practices for Street and Highway Construction, Maintenance and Utility Operations, latest revision. All barricades and obstructions shall be protected at night by flashing signal lights which shall be kept burning from sunset to sunrise. Barricades shall be sturdily constructed and suitable for night visibility. Suitable warning signs shall be so placed and illuminated at night as to show in advance where construction, barricades or detours exist.

SC-6.17. SHOP DRAWINGS AND SAMPLES

Replace subparagraph 6.17.A.1.a. with the following:

- a. Refer to technical specification 01300 for the number of shop drawings required to be submitted and additional requirements.

SC-6.20 INDEMNIFICATION

Delete paragraph 6.20.A. of the General Conditions and replace with the following provisions:

In consideration of One Thousand dollars (\$1,000.00) receipt and sufficiency of which is accepted through the signing of this Contract by an authorized party or agent, CONTRACTOR shall indemnify, hold harmless, and defend OWNER, ENGINEER and their supervisors, agents, staff, and employees (together, INDEMNITEES) from all claims, damages, losses and expenses, direct, indirect or consequential (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court or dispute resolution costs) arising out of or incidental to the performance of this Contract or Work performed thereunder, but only to the extent caused in whole or in part by any act, omission, or default of CONTRACTOR, or any of CONTRACTOR's subcontractors, sub-subcontractors, materialmen, or agents of any tier or their respective employees.

The parties expressly agree that the amounts stated in this section bear a reasonable commercial relationship to the contract.

This provision shall also pertain to any claims brought against the INDEMNITEES by any other employees of the named CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them. The CONTRACTOR shall ensure that any and all subcontracts includes this express provision for the benefit of the OWNER, AND ENGINEER.

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

The first One Thousand Dollars (\$1,000.00) of money received on the contract price is considered as payment of this obligation by the OWNER.

CONTRACTOR and OWNER agree that nothing in this Contract shall be deemed as a waiver of the OWNER's sovereign immunity or the OWNER's limits of liability as set forth in Section 768.28, Florida Statutes or other statute, and nothing in this Contract shall inure to the benefit of any third party for the purpose of allowing any claim which would otherwise be barred under such limitations of liability or by operation of law.

ARTICLE 9 - OTHER WORK AT THE SITE

SC-9.07 ENGINEER'S STATUS DURING CONSTRUCTION

Delete paragraph 9.07.A of the General Conditions and replace with the following:

- A. No determinations of actual quantities will be made by the ENGINEER for the Work performed by CONTRACTOR. CONTRACTOR shall review the Contract Documents and determine the quantities to be installed based upon the information provided on the Contract Drawings or otherwise contained in the Contract Documents; and shall detail in the Schedule of Values the itemized components of the Work equaling the Total Aggregate Lump Sum Proposal Price. The basis of the Total Aggregate Lump Sum Proposal Price is for the performance of the Work as detailed on the Contract Drawings and described in the Contract Documents and are all inclusive for the complete and functioning project from beginning to end. If during construction, CONTRACTOR determines that any item of Work performed by CONTRACTOR differs materially and significantly from the CONTRACTOR's estimated quantity of such item, CONTRACTOR shall review such items with ENGINEER. ENGINEER will review with CONTRACTOR the ENGINEER's preliminary determinations on such matters but in no case shall the ENGINEER be held liable for determinations of unit quantities by the CONTRACTOR. ENGINEER's written decision regarding CONTRACTOR's quantities 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.

SC-11.01 COST OF THE WORK

Delete the last sentence in paragraph 11.01.A of the General Conditions in its entirety and replace with the following:

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 the following items and those costs itemized in paragraphs 11.01.B and 12.01.C:

Delete subparagraph 11.01.A.5.g. and replace with the following:

The cost of utilities, fuel, water and sanitary facilities at the Site, which shall also include, but not be limited to, temporary utilities, including electric, water, fuel and sanitary facilities.

Add new paragraphs 11.01.A.5.j.

- j. The costs of haul off of demolition and unsuitable soils at the Site.

Delete paragraph 11.01.B in its entirety and replace with the following:

- B. The term Cost of the Work shall include the following:

SC-11.02 ALLOWANCES

Delete paragraphs 11.02.B.1.a and 11.02.B.1.b of the General Conditions in their entirety and replace with the following:

- a. The allowance shall be for the direct cost of the Work so covered with no additional CONTRACTOR's mark-up for overhead and profit. No demand for additional payment on account of any of the following will be valid: CONTRACTOR's costs for unloading and handling on the site, labor, installation costs, escalation in fuel, materials, utilities, etc., and other expenses contemplated for the allowances.

SC-11.03 UNIT PRICE WORK

Delete paragraph 11.03. Unit Price Work, of the General Conditions in its entirety and replace with the following:

11.03 UNIT PRICE WORK BASED ON SCHEDULE OF VALUES

- A. Where the Contract Documents provide that the Work is to be completed on a basis of a Total Lump Sum Proposal Price, the component items of the Work shall be identified in a Schedule of Values as outlined in paragraph 2.05.B.2. Unit price work for the integral component parts shall equal the CONTRACTOR's estimated quantities times the CONTRACTOR's estimated unit price for each item.
- B. Each unit price as identified in the Schedule of Values 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.
- C. Unit prices as identified by the CONTRACTOR in the Schedule of Values will serve as the basis for progress payments and establish unit prices for additions or deletions to the Work, subject to the following criteria;
 - 1. for unit price work established in the Schedule of Values, net changes in quantity less than 20% of the CONTRACTOR's original quantity will not reflect a change in established unit prices; and
 - 2. net change in quantity equal to or greater than 20% of the CONTRACTOR's original quantity, are subject to negotiation in unit price only for the quantities equal to and above the 20% net change.

SC-12.01 CHANGE OF CONTRACT PRICE

Delete subparagraphs 12.01.B.1, 12.01.B.2 and 12.01.B.3 of the General Conditions and replace with the following:

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1. where the Work involved is based upon a mutually agreed Total Lump Sum Proposal Price where the itemized components of the Work are detailed (by unit price and quantity) in an approved Schedule of Values as outlined in paragraph 2.05.B.2 of the Supplementary Conditions, by application of such unit prices to the quantities of the items involved subject to the provisions of Section 11.03.A through 11.03C.2 inclusive, of the Supplementary Conditions.
2. where the absence of established unit prices as submitted in the Schedule of Values exists, the basis of the Cost of the Work (determined as provided in paragraphs 11.01.A and 11.01.B including a Contractor's fee for overhead and profit (15% maximum), by a mutually agreed lump sum.

Delete paragraph 12.01.C and subparagraphs 12.01.C.1 through 12.01.C.2.F, in their entirety and replace with the following:

- C. The Contractor's fee allowed to Contractor for overhead and profit shall be included in the Cost of the Work and/or in the approved Schedule of Values.

SC-12.03 DELAYS

Delete paragraphs 12.03.A through 12.03.E of the General Conditions in their entirety and replace with the following:

12.03.A. DELAYS BEYOND CONTRACTOR's CONTROL

Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to a delay beyond the control of the CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a Claim is made therefore 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 by utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God., but shall not include phased delivery of the Project if such phasing is contemplated in the Project Manual.

12.03.B. DELAYS WITHIN CONTRACTOR's CONTROL

The Contract Times (or Milestones) will not be extended due to 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 the CONTRACTOR.

12.03.C DELAYS BEYOND OWNER AND CONTRACTOR's CONTROL

Where CONTRACTOR is prevented from completing any part of the Work within the Contract Time (or Milestones) due to delay beyond the control of

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both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay.

12.03.D DELAY DAMAGES

a. In no event shall OWNER or ENGINEER, or Related Entities of each of them be liable to CONTRACTOR, any subcontractor, any supplier, or any other person or organization, or to any surety for or employee or any agent of them, for 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 resulting from:

1. delays caused by or within the control of CONTRACTOR;
2. delays beyond the control of both OWNER and CONTRACTOR, including, but not limited to, fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.
3. delays sustained by the CONTRACTOR that are within the control of the CONTRACTOR. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

Nor shall OWNER, ENGINEER, or Related Entities of each of them be liable to CONTRACTOR for any claims, costs, losses or damages sustained by CONTRACTOR on or in connection with any other project or anticipated project.

SC-13.07 CORRECTION PERIOD

Delete the first paragraph in 13.07.A of the General Conditions and replace it with:

If within thirty-six (36) months after the date of Substantial Completion, or after the date of final acceptance of the Project by all applicable regulatory authorities, whichever date is later, 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:

Add the following language at the end of paragraph 13.07.E of the General Conditions:

- 13.07.F Specific and special warranties specified in the Contract Documents are in addition to, and not in lieu of, the CONTRACTOR's general warranty.

CONTRACTOR shall not be relieved of general warranty obligations by specification of specific products or services.

SC-14.01 SCHEDULE OF VALUES

Delete the last sentence of paragraph 14.01 of the General Conditions in its entirety.

SC-14.02.A. APPLICATION FOR PAYMENTS

Delete the second sentence of paragraph 14.02.A.1 and replace it with the following:

Progress payments are to be made only on installed material, no payments shall be made on stored material, whether on or off site, unless prior written arrangements are made with OWNER.

SC-14.02.C. PAYMENT BECOMES DUE

Delete paragraph 14.02.C.1 of the General Conditions in its entirety and replace with the following:

OWNER shall make payment to the CONTRACTOR in the amount recommended (subject to the provisions of subsection 14.02.D) in accordance with the prompt payment provisions contained in sections 218.735 and 218.74, Florida Statutes. CONTRACTOR shall make payments due to subcontractors and suppliers within ten (10) days in accordance with the prompt payment provisions contained in section 218.735(6), 218.735(7), and 218.74, Florida Statutes.

SC-14.05 PARTIAL UTILIZATION

In the first sentence of paragraph 14.05.A of the General Conditions, following the words "...part of the Work...", insert the words "...or to place and install equipment..."

SC-17 MISCELLANEOUS

Add the following paragraphs to Article 17 of the General Conditions:

SC-17.07 COSTS AND FEES

In the event OWNER or CONTRACTOR is required to enforce this Agreement by court proceedings or otherwise, then the prevailing party shall be entitled to recover from the other party all fees and costs incurred, including reasonable attorney's fees and costs.

SC-17.08 PUBLIC RECORDS

CONTRACTOR understands and agrees that all documents of any kind provided to the OWNER in connection with this Agreement may be considered public records in accordance with Chapter 119, Florida Statutes, and other Florida law.

SC-17.09 RESTRICTION ON REMOVAL OF FILL DIRT FROM WORK SITE

CONTRACTOR acknowledges that all suitable soil/fill material shall remain on-site. Fill material shall not be removed from the project site without the written consent of the ENGINEER, as outlined in the Project Manual. However, demolition and unsuitable soils shall be hauled off site and is a part of the Work provided for pursuant to the Contract Documents.

SC-17.10 OPTIONAL TERMINATION; LIMITATION ON DAMAGES

Notwithstanding any other provision of the Project Manual, the CONTRACTOR shall not be entitled to and hereby waives any and all damages that it may suffer by reason of delay or for any Act of God, and waives all damages that it may suffer by reason of such delay including lost profits, overhead, supervision and home office. No payment of any claim for damages shall be made to the CONTRACTOR as compensation for damages for any delays or hindrances from any cause whatsoever in the progress of the Work, whether such delay be avoidable or unavoidable.

The OWNER, in its sole and absolute discretion, may additionally direct that the Project be delivered in multiple phases rather than all at once. Such option, if exercised, shall in no way impact the pricing of the Project, nor constitute a delay.

Further, the OWNER may, at its option (the "Optional Termination"), terminate the Contract in whole or in part at any time by written notice thereof to CONTRACTOR ("Notice of Termination"). Upon any such termination under this Optional Termination provision, CONTRACTOR shall be deemed to have waived any and all claims for damages of any kind from the Optional Termination, including but not limited to consequential damages or lost profits. Upon receipt of any such termination notice under this Optional Termination provision, CONTRACTOR shall, unless the notice requires otherwise:

- (a) Immediately discontinue Work on the date and to the extent specified in the notice except to the extent necessary to protect Work in place;
- (b) Place no further orders for materials, services, or facilities, other than as may be necessary or required for completion of such portion of Work under the Contract that is not terminated;
- (c) Promptly make every reasonable effort to obtain cancellation upon terms reasonably satisfactory to OWNER of all purchase orders and Subcontracts to the extent they relate to the performance of Work terminated or assign to OWNER those orders and Subcontracts and revoke agreements specified in such notice;
- (d) Reasonably assist OWNER, as specifically requested in writing, in the maintenance, protection and disposition of property acquired by OWNER under the Contract, as may be necessary;

- (e) Complete performance of any Work which is not terminated; and
- (f) Deliver to OWNER an affidavit regarding the identity of unpaid potential lienors and the amounts due to each.

Upon termination under the provisions of this Section, OWNER will pay to CONTRACTOR all amounts due and not previously paid to CONTRACTOR for Work completed in accordance with the Contract prior to such notice, as well as the cost of reasonably protecting Work in place, and for Work thereafter completed as specified in such notice, as well as release and payment to CONTRACTOR of all retainage held by OWNER related to the portion of the Work completed. No payments will be made for any potential costs of settling or paying claims arising out of termination of the Work under subcontracts, equipment leases, orders or other related arrangements.

SC-17.11 CONSTRUCTION DEFECTS

PURSUANT TO SECTION 558.005, FLORIDA STATUTES, ANY CLAIMS FOR CONSTRUCTION DEFECTS ARE NOT SUBJECT TO THE NOTICE AND CURE PROVISIONS OF CHAPTER 558, FLORIDA STATUTES.

SC-17.12 DIRECT PURCHASES

The OWNER and CONTRACTOR agree that the OWNER shall be entitled to undertake a direct purchase of any or all materials incorporated into the Work. In such event, the following conditions shall apply:

- (a) OWNER represents to CONTRACTOR that OWNER is a governmental entity exempt from Florida sales and use tax, and has provided CONTRACTOR with a copy of its Consumer Exemption Certificate.
- (b) OWNER elects to implement a direct purchase arrangement whereby OWNER will directly acquire certain materials ("Direct Purchase Materials") necessary for the project directly from the suppliers to take advantage of OWNER's tax exempt status.
- (c) OWNER shall follow the procurement procedures and related forms for OWNER purchased materials.

2. SPECIAL PROVISIONS

These Special Provisions amend or supplement the contract documents and are intended to set forth conditions and requirements that are unique for this project. All other provisions not amended or supplemented shall remain in full force and effect. In case of a discrepancy, these Special Provisions shall govern over any other written specification or drawing.

SP-1 None.

END OF SECTION

**SECTION 01001-MC
SUPPLEMENTARY TECHNICAL SPECIFICATIONS**

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes Supplementary Technical Specifications, which amend or supplement the technical specifications of these Contract Documents. All specifications not amended or supplemented remain in full force and effect.

1.02 CHANGES

- A. Section 01050, Surveying
1. Paragraph 1.03.C shall be revised to include the following: Prepare and submit Paving, Grading & Drainage and Utility Record Drawings certified by a Professional Mapper & Surveyor licensed in the State of Florida in accordance with Manatee County Standards. Record drawings shall be a special revision of the approved construction plans.
 2. The contractor shall be responsible for obtaining Manatee County approval of the record drawings.
- B. Section 02706, Water Lines
1. Paragraph 3.04.B: The test pressure is 180 psi, not 150 psi.
- C. Section 02708, Sanitary Sewer
1. Paragraph 2.03.B shall be revised to reflect that the force main piping shall be Class 150, DR-18, not Class 100, DR-25.
 2. Paragraph 2.03.D: The plug valve shall be bi-directional, or able to provide drip-tight shutoff in both directions at the pressure rating of the valve. This requirement applies to all parts of the valve, including actuators.
 3. Add Paragraph 2.03.F: The air release vacuum valve shall be Model VM-302S-BW as manufactured by Valmatic.
 4. Paragraph 3.04.G.4: Manholes shall be tested in a manner described by Manatee County Public Works Utility Standards.
 5. Paragraph 3.04.G.10 shall be required unless the CONTRACTOR has the required confined space certifications and equipment to facilitate lamping. The CONTRACTOR shall obtain verification from the County that they are approved for lamping.
 6. Paragraph 3.05.J.1 shall be revised to reflect that the force main test pressure is 150 psi, not 80 psi.

D. Section 02912, Soil Cement and Shell Base Course, Prime and Tack Coat, and Stabilized Subgrade

1. Soil cement base shall be designed and constructed in accordance with Manatee County Standards. (Manatee County Department of Public Works Specification No. 503.0)

1.03 ADDITIONS

A. Section 02912, Soil Cement and Shell Base Course, Prime and Tack Coat and Stabilized Subgrade

If shown in the construction plans, the following specifications shall be added when cement-treated shell base is specified in lieu of soil cement.

1. Paragraph 2.05 - Cement-Treated Shell Base

A. General

1. The construction of the cement-treated shell base shall be in general accordance with FDOT Specification Section 270.
2. The subgrade is to be constructed to FDOT Specification Section 160 and be compacted to 98 percent AASHTO T-180 density. The subgrade to be constructed of material having a minimum LBR of 40 unless otherwise noted.
3. The cement-treated shell base is to have a minimum laboratory cured field mix seven-day compressive strength of 200 psi by bag sample.
4. Shell material shall be mixed with a minimum cement content by weight of two percent. The intent of a two percent mix is not primarily to generate strength but to enhance a shell base with the resiliency and water resistance characteristics of soil cement, without generating the problematic cracking characteristics generally associated with normal soil cement mixes. Therefore, the CONTRACTOR is instructed to generate a mix capable of achieving a field test seven-day compressive strength in the range of 200 psi to 300 psi by bag sample.
5. Shell material shall have a minimum LBR of 90 prior to mixing with cement, unless otherwise noted.
6. Any area represented by a 400 psi seven-day break or greater is subject to rejection by the OWNER or the OWNER's representative after observation, evaluation and testing. Values from 300 psi to 400 psi shall be subject to review and comparison to the design mix.

7. It should be noted that the moisture content, rapidity of compaction effort and final compaction results have as much, if not more, influence on the compressive strength as does the cement content. In order to give the CONTRACTOR a referenced acceptance standard, lower and upper values of 200 psi and 300 psi have been established. These values are also given some subjective leeway in the inspection of the final product.
8. All material shall be collected by the sack method, transported to lab in sealed/moisture retaining enclosure and tested within two hours of field sampling.

B. Testing and Inspection

1. All testing and inspection shall be performed by an independent laboratory approved by the ENGINEER.
2. The CONTRACTOR shall make available all materials to the laboratory for the purpose of performing routine tests as specified. This includes samples for soil cement mixture design, maximum density determination, sieve analysis or other tests as directed by the ENGINEER.
3. The pills cast from project operations must break at 200 psi or higher at seven days.
4. Cores may be taken at 14 days to provide additional information regarding a cement-treated base.
5. Compressive strength tests on cores should verify that the base has achieved a minimum in-situ strength of 150 psi before the asphalt concrete surface course is placed. All cores shall be six inches in diameter.
6. In-place density tests shall be made in the subgrade and base course. Frequency of testing shall be at least one test for every 500 linear feet of pavement. A minimum of two strength test value specimens shall be taken each day (one in the morning and one in the afternoon).
7. Test results shall be reported in writing to the OWNER, ENGINEER, CONTRACTOR, and local authority.
8. The costs of all tests shall be borne by the OWNER.

END OF SECTION 01001-MC

**SECTION 01001-MC
SUPPLEMENTARY TECHNICAL SPECIFICATIONS**

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes Supplementary Technical Specifications, which amend or supplement the technical specifications of these Contract Documents. All specifications not amended or supplemented remain in full force and effect.

1.02 CHANGES

A. Section 01050, Surveying

1. Paragraph 1.03.C shall be revised to include the following: Prepare and submit Paving, Grading & Drainage and Utility Record Drawings certified by a Professional Mapper & Surveyor licensed in the State of Florida in accordance with Manatee County Standards. Record drawings shall be a special revision of the approved construction plans.
2. The contractor shall be responsible for obtaining Manatee County approval of the record drawings.

B. Section 02706, Water Lines

1. Paragraph 3.04.B: The test pressure is 180 psi, not 150 psi.

C. Section 02708, Sanitary Sewer

1. Paragraph 2.03.B shall be revised to reflect that the force main piping shall be Class 150, DR-18, not Class 100, DR-25.
2. Paragraph 2.03.D: The plug valve shall be bi-directional, or able to provide drip-tight shutoff in both directions at the pressure rating of the valve. This requirement applies to all parts of the valve, including actuators.
3. Add Paragraph 2.03.F: The air release vacuum valve shall be Model VM-302S-BW as manufactured by Valmatic.
4. Paragraph 3.04.G.4: Manholes shall be tested in a manner described by Manatee County Public Works Utility Standards.
5. Paragraph 3.04.G.10 shall be required unless the CONTRACTOR has the required confined space certifications and equipment to facilitate lamping. The CONTRACTOR shall obtain verification from the County that they are approved for lamping.
6. Paragraph 3.05.J.1 shall be revised to reflect that the force main test pressure is 150 psi, not 80 psi.

- D. Section 02912, Soil Cement and Shell Base Course, Prime and Tack Coat, and Stabilized Subgrade
 - 1. Soil cement base shall be designed and constructed in accordance with Manatee County Standards. (Manatee County Department of Public Works Specification No. 503.0)

1.03 ADDITIONS

- A. Section 02912, Soil Cement and Shell Base Course, Prime and Tack Coat and Stabilized Subgrade

If shown in the construction plans, the following specifications shall be added when cement-treated shell base is specified in lieu of soil cement.

- 1. Paragraph 2.05 - Cement-Treated Shell Base
 - A. General
 - 1. The construction of the cement-treated shell base shall be in general accordance with FDOT Specification Section 270.
 - 2. The subgrade is to be constructed to FDOT Specification Section 160 and be compacted to 98 percent AASHTO T-180 density. The subgrade to be constructed of material having a minimum LBR of 40 unless otherwise noted.
 - 3. The cement-treated shell base is to have a minimum laboratory cured field mix seven-day compressive strength of 200 psi by bag sample.
 - 4. Shell material shall be mixed with a minimum cement content by weight of two percent. The intent of a two percent mix is not primarily to generate strength but to enhance a shell base with the resiliency and water resistance characteristics of soil cement, without generating the problematic cracking characteristics generally associated with normal soil cement mixes. Therefore, the CONTRACTOR is instructed to generate a mix capable of achieving a field test seven-day compressive strength in the range of 200 psi to 300 psi by bag sample.
 - 5. Shell material shall have a minimum LBR of 90 prior to mixing with cement, unless otherwise noted.
 - 6. Any area represented by a 400 psi seven-day break or greater is subject to rejection by the OWNER or the OWNER's representative after observation, evaluation and testing. Values from 300 psi to 400 psi shall be subject to review and comparison to the design mix.

7. It should be noted that the moisture content, rapidity of compaction effort and final compaction results have as much, if not more, influence on the compressive strength as does the cement content. In order to give the CONTRACTOR a referenced acceptance standard, lower and upper values of 200 psi and 300 psi have been established. These values are also given some subjective leeway in the inspection of the final product.
8. All material shall be collected by the sack method, transported to lab in sealed/moisture retaining enclosure and tested within two hours of field sampling.

B. Testing and Inspection

1. All testing and inspection shall be performed by an independent laboratory approved by the ENGINEER.
2. The CONTRACTOR shall make available all materials to the laboratory for the purpose of performing routine tests as specified. This includes samples for soil cement mixture design, maximum density determination, sieve analysis or other tests as directed by the ENGINEER.
3. The pills cast from project operations must break at 200 psi or higher at seven days.
4. Cores may be taken at 14 days to provide additional information regarding a cement-treated base.
5. Compressive strength tests on cores should verify that the base has achieved a minimum in-situ strength of 150 psi before the asphalt concrete surface course is placed. All cores shall be six inches in diameter.
6. In-place density tests shall be made in the subgrade and base course. Frequency of testing shall be at least one test for every 500 linear feet of pavement. A minimum of two strength test value specimens shall be taken each day (one in the morning and one in the afternoon).
7. Test results shall be reported in writing to the OWNER, ENGINEER, CONTRACTOR, and local authority.
8. The costs of all tests shall be borne by the OWNER.

END OF SECTION 01001-MC

**SECTION 01050
SURVEYING (PROVIDED BY OWNER)**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Survey requirements for the project.

1.02 QUALITY CONTROL

- A. Employ a Land Surveyor registered in the State of Florida and acceptable to ENGINEER and OWNER to perform survey functions in this section.

1.03 SUBMITTALS

- A. Submit name, address, and telephone number of Surveyor before starting survey work.
- B. On request, submit documentation verifying accuracy of survey work.
- C. Submit a copy of registered site drawing and certificate signed by the Land Surveyor that the elevations and locations of the work are in conformance with Contract Documents.

1.04 PROJECT RECORD DOCUMENTS

- A. Maintain a complete and accurate log of control and survey work as it progresses.

1.05 EXAMINATION

- A. Verify locations of survey control points and reference points prior to starting work.
- B. Promptly notify ENGINEER of any discrepancies discovered.

1.06 SURVEY REFERENCE POINTS

- A. CONTRACTOR shall locate and protect survey control and reference points.
- B. Control datum for survey is that indicated on drawings.
- C. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- D. Promptly report to ENGINEER the loss or destruction of any reference point or relocation required because of changes in grades or other reasons.
- E. The Registered Surveyor shall replace dislocated survey control points based on original survey control. Make no changes without prior written notice to ENGINEER.

1.07 SURVEY REQUIREMENTS

- A. Provide field engineering services. Utilize recognized engineering survey practices.
- B. Establish a minimum of two permanent benchmarks on site, referenced to established control points. Record locations, with horizontal and vertical data, on project record documents.
- C. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
 - 1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations.
 - 2. Grid or axis for structures.
 - 3. Building foundation, column locations, and ground floor elevations.
- D. Periodically verify layouts by same means.

1.08 SURVEYS FOR MEASUREMENT AND PAYMENT

- A. Perform surveys to determine quantities of unit cost work, including control surveys to establish measurement reference lines. Notify ENGINEER prior to starting work.
- B. CONTRACTOR's Surveyor shall sign field notes or keep duplicate field notes.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. The cost of the work specified in this section shall be included in all the various pay items or work items described in the schedule and no separate payment will be made, unless a separate pay item is established in the Contract Documents.

END OF SECTION 01050

**SECTION 01300
SHOP DRAWINGS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Shop drawing submittal procedures.

1.02 PROCEDURES

- A. Deliver a minimum of six copies of submittals to ENGINEER at address listed on cover sheet of specifications. Distribution is two copies for the ENGINEER, two copies for the OWNER and two copies returned to the CONTRACTOR. If additional copies are required by the CONTRACTOR, they shall submit them.
- B. Transmit each item under ENGINEER-accepted form. Identify Project, CONTRACTOR, Subcontractor, and major supplier. Identify pertinent drawing sheet and specification section number as appropriate. Identify deviations from contract documents. Approve all submittals prior to forwarding to ENGINEER by stamping and signing approval stamp. Provide space for CONTRACTOR and ENGINEER review stamps.
- C. After ENGINEER review of submittal, revise and resubmit as required, identifying changes made since previous submittal.
- D. Distribute copies of reviewed submittals to concerned persons. Instruct recipients to promptly report any inability to comply with provisions.
- E. Prior to any submittals, a Schedule of Shop Drawings must be submitted and approved by ENGINEER.

PART 2 PRODUCTS

2.01 SHOP DRAWING SUBMITTAL

- A. _____
- B. _____
- C. _____
- D. _____

PART 3 EXECUTION

Not Used

PART 4 **MEASUREMENT AND PAYMENT**

- A. The cost of the work specified in this section shall be included in all the various pay items or work items described in the schedule and no separate payment will be made unless a separate pay item is established in the Contract Documents.

END OF SECTION 01300

**SECTION 01410
TESTING SERVICES
(PROVIDED BY OWNER)**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Responsibilities of the CONTRACTOR, OWNER, and Testing Laboratory regarding specified tests.
- B. Report specifications.

1.02 SELECTION AND PAYMENT

- A. Unless otherwise stated in the Contract Documents, the OWNER will select and pay for the services of an independent testing laboratory to perform tests required by the technical specifications.
- B. Cost of retests due to failures shall be paid for by the CONTRACTOR in the form of a deduction from the contract amount.
- C. Utilization of a testing laboratory shall in no way relieve the CONTRACTOR of any obligation to perform work in accordance with the requirements of the Contract Documents.

1.03 SCHEDULING TESTS

- A. The OWNER will furnish the name of the testing laboratory to the CONTRACTOR at the preconstruction conference.
- B. The CONTRACTOR shall be responsible for scheduling each test by notifying the designated laboratory 24 hours prior to the time the test is to be taken.
- C. The specific requirements, including the type and amount of testing, shall be in accordance with the technical specifications or as otherwise stated in the Contract Documents.
- D. Ample time shall be allowed for the testing process by the CONTRACTOR, since an extension of time will not be allowed for testing delays or retests due to failures.

1.04 QUALITY ASSURANCE

- A. All tests shall be performed by qualified personnel under the direction and control of a Professional Engineer registered in the State of Florida and specializing in Geotechnical or Material analysis as applicable.
- B. In addition to the tests required by the Contract Documents, the OWNER's Representative may direct the testing laboratory to take any other tests or material inspections that he feels necessary to achieve the quality of construction that is specified in the Contract Documents.

1.05 LABORATORY RESPONSIBILITIES

- A. Perform inspection, sampling, and testing in accordance with the Contract Documents.
- B. Provide qualified personnel to perform all phases of required services and cooperate with OWNER's Representative and CONTRACTOR in the performance of those services.
- C. Ascertain compliance of materials and related procedures with requirements of the Contract Documents.
- D. Promptly notify the CONTRACTOR and the OWNER's Representative of any irregularities or non-conformance of work, materials, or product.
- E. Perform additional inspections or tests requested by the OWNER's Representative.
- F. Attend pre-construction conferences and progress meetings.

1.06 LABORATORY REPORTS

- A. After each inspection or test, promptly submit a laboratory report to the OWNER, the OWNER's Representative, and the CONTRACTOR.
- B. The report shall include the following:
 - 1. Date of report.
 - 2. Project title and number.
 - 3. Date, time, and location of each sample extraction or inspection.
 - 4. Identification of material and method of test.
 - 5. Results of tests.
 - 6. Evaluation of conformance to contract specifications.
 - 7. Notification of retest requirement due to test failure.
 - 8. Site map showing testing locations.
 - 9. At the completion of construction the testing firm shall provide a certification signed and sealed by a professional engineer licensed in the state of Florida, certifying that the testing program has been completed in accordance with the project specifications and that the completed project complies with the testing criteria contained in the project plans and specifications.

1.07 LIMITS ON TESTING LABORATORY AUTHORITY

- A. Laboratory may not release, revoke or alter the requirements of the Contract Documents.
- B. Laboratory may not approve or accept any portion of the work.

- C. Laboratory may not assume any duties of the CONTRACTOR.
- D. Laboratory has no authority to stop the work.

1.08 CONTRACTOR RESPONSIBILITIES

- A. Submit proposed mix designs and samples of proposed materials to the designated laboratory as required by the Contract Documents or as requested by the OWNER's Representative.
- B. Provide access to the site for any tests or inspections.
- C. Provide labor and facilities to obtain, handle, store, and cure test samples and to facilitate material inspection.
- D. Cooperate with laboratory personnel to maximize the efficiency of the testing procedure by periodically updating the construction schedule and adhering to the 24-hour advance notice requirement for tests.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. In accordance with Article 1.02, Selection and Payment, this section.

END OF SECTION 01410

**SECTION 01600
MATERIAL AND EQUIPMENT**

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. This section provides general guidelines for products provided, including their transportation and handling, storage and protection, options, substitutions and systems demonstration.

1.02 SUBSTITUTIONS

- A. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
- B. Request constitutes a representation that CONTRACTOR:
 - 1. Has investigated proposed product and determined that it meets or exceeds, in all aspects, specified product.
 - 2. Will provide the same warranty for substitution as for specified product.
 - 3. Will coordinate installation and make other changes which may be required for work to be complete in all respects.
 - 4. Waives claims for additional costs which may subsequently become apparent.
- C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals without separate written request, or when acceptance will require substantial revision of Contract Documents.
- D. ENGINEER will determine acceptability of proposed substitution, and will notify CONTRACTOR of acceptance or rejection in writing within a reasonable time.

PART 2 PRODUCTS

- 2.01** Only new materials and equipment shall be incorporated in the work. All material and equipment furnished by CONTRACTOR shall be subject to inspection and approved by ENGINEER.
- 2.02** Comply with specifications and referenced standards as minimum requirements.
- 2.03** Components required to be supplied in quantity within a specification section shall be the same, and shall be interchangeable.
- 2.04** Products specified by reference standards or by description only: Any product meeting those standards.
- 2.05** Products specified by naming one or more manufacturers with a provision for substitutions: Submit a request for substitution for any manufacturer not specifically named.

PART 3 EXECUTION

3.01 TRANSPORTATION AND HANDLING

- A. Transport products by methods to avoid product damage; deliver in undamaged condition in manufacturer's unopened containers or packaging, dry.
- B. Provide equipment and personnel to handle products by methods to prevent soiling or damage.
- C. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

3.02 STORAGE AND PROTECTION

- A. Store products in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive products in weather-tight enclosures; maintain within temperature and humidity ranges required by manufacturer's instructions.
- B. For exterior storage of fabricated products, place on sloped supports above ground. Cover products subject to deterioration with weather-tight enclosure as recommended by manufacturer. Provide ventilation to avoid condensation.
- C. Store loose granular materials on solid surfaces in a well-drained area. Prevent mixing with foreign matter.
- D. Arrange storage to provide access for inspection. Periodically inspect to assure products are undamaged, and are maintained under required conditions.
- E. Materials, which in the opinion of the ENGINEER, have become so damaged as to be unfit for the use intended or specified shall be removed from the site of the work. CONTRACTOR shall receive no compensation for the damaged material or its removal.

3.03 SYSTEMS DEMONSTRATION

- A. Prior to final inspection, demonstrate operation of each system to ENGINEER and OWNER.
- B. Instruct OWNER's personnel in operation, adjustment, and maintenance of equipment and systems, using the operation and maintenance data as the basis of instruction.

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. The cost of the work in this section shall be included in all the various pay items or work items described in the schedule and no separate payment will be made, unless a separate pay item is established in the Contract Documents.

END OF SECTION 01600

**SECTION 01650
WETLANDS AND NATIVE VEGETATION
PRESERVATION & CONSERVATION AREAS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for performing work near or adjacent to wetlands or native vegetation preservation and conservation areas.

1.02 PERMITS AND REGULATIONS

- A. The CONTRACTOR shall read and understand all aspects of the environmental permits issued for the project, including requirements of the special conditions contained therein. The CONTRACTOR shall be responsible for compliance with all conditions of the permits which relate to construction activities or construction impacts.
- B. The CONTRACTOR shall be responsible for compliance with all applicable federal, state and local environmental rules and regulations pertaining to construction of the project.
- C. The CONTRACTOR shall be responsible to erect all required erosion control devices (BMPs) prior to major clearing adjacent to wetlands/preservation areas. The jurisdictional agencies shall be notified by the CONTRACTOR to review and approve the erosion control devices (BMPs) prior to land clearing.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

Not Used

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. Unless otherwise specified in the Contract Documents, the cost of complying with this section of the specifications shall be included in the various lump sum and unit prices in the contract.

END OF SECTION 01650

**SECTION 02703
TRENCHING AND BACKFILLING FOR PIPING**

PART 1 GENERAL

1.01 SCOPE

- A. The work specified in this section consists of the excavation, bedding, and backfilling of trenches for water main, storm sewer, sanitary sewer, force main, irrigation lines, and utility lines. Also included is the excavation and backfilling of pertinent structures, such as manholes, inlets, pump stations, etc.

1.02 REFERENCES

- A. Referenced standards or specifications such as ASTM, AASHTO, or AWWA, shall be the latest edition.
- B. Stantec Specifications Sections:

02817 CLEARING AND GRUBBING
02820 EXCAVATION AND EMBANKMENT
- C. Attachments

Figure A (Section 02703)

1.03 SUPPLEMENTAL REQUIREMENTS

- A. The requirements in this section are the minimum for this project. Any additional requirements stated in the Contract Documents or otherwise specified by the manufacturer or any governmental agency in a permit, code, or ordinance shall take precedence over the requirements of this section.

1.04 SUBSURFACE CONDITIONS

- A. The CONTRACTOR shall be responsible for determining the subsurface conditions in areas where excavation can be anticipated. The type of soil, depth and thickness of rock and unsuitable materials, ground water table, and other factors that affect cost shall be evaluated prior to submitting a bid.
- B. The method used to determine subsurface conditions shall be the responsibility of the CONTRACTOR. Soil borings (if provided) only supply information in the exact location of each boring; therefore, on-site exploration of the subsurface is the CONTRACTOR's responsibility. All on-site exploration shall be scheduled with the OWNER and coordinated with jurisdictional agencies and utility companies.

1.05 PROTECTION

- A. With the exception of sheeted excavations for deep pipe installations, wet wells or other poured in place construction activity, all excavations or trenches shall be backfilled immediately after the work is completed. The CONTRACTOR shall plan the daily construction activity whereby trenches are backfilled and compacted in accordance with the accompanying specifications at the end of each work day. Should it be necessary for reasons other than standard construction procedures to leave an excavation open the

CONTRACTOR shall isolate and protect the workers and the general public from the entire excavation by barricades, fences, signs, lights or other devices required by the contract documents and/or local agency codes.

- B. The CONTRACTOR shall comply with the applicable trench safety standards specifically set forth in Florida's Trench Safety Act.
- C. Pavement, sidewalk, driveway, curb and gutter, and other structures shall be protected from damage during excavation wherever possible and as directed in the Contract Documents.

PART 2 PRODUCTS

2.01 BEDDING MATERIALS

- A. Crushed stone bedding material: Crushed, washed, and graded in accordance with ASTM C-33, gradation 67.
- B. Sand bedding: Clean sand, free of clay, silt, debris, roots, vegetation, or rock larger than one-half inch in diameter.
- C. Clean 3/8 inch washed shell material.

2.02 BACKFILLING MATERIALS

- A. Select fill: Materials excavated from the limits of construction or imported that conform to AASHTO Standard M-145, Groups A-1 and A-3 and free of rocks or gravel, clay, silt, debris, roots and vegetation.
- B. Common fill: Material that conforms to AASHTO Standard M-145, Groups A-1, A-2, or A-3, free of rocks or gravel, clay, silt, debris, roots and vegetation.

PART 3 EXECUTION

3.01 PREPARATION

- A. Investigate existing conditions and identify line and grade stakes as applicable. Arrange for placement of materials required to minimize the duration of open trenches or excavated areas.
- B. Install well points or other approved methods of dewatering as required so that the discharged water complies with all pertinent ordinances, codes, permits, or requirements of the Contract Documents.
- C. Implement traffic control and protective devices as may be applicable.
- D. For pipe lines placed above the natural ground, embankment shall be placed and compacted to an elevation of at least two feet above the top of the pipe and to a width equal to four pipe diameters prior to trench excavation. The minimum side slopes shall be six feet (horizontal) to one foot (vertical).

3.02 CLEARING AND GRUBBING

- A. Prior to trench excavation, the existing surface that will be disturbed by the excavation operation shall be cleared and grubbed in accordance with Stantec Specification Section 02817 CLEARING AND GRUBBING.
- B. The limits of clearing and grubbing for this section shall be as shown on the plans or as otherwise specified in the Contract Documents. Where the clearing limits are not shown or stated, the limits of clearing and grubbing shall be the smallest area that will facilitate the construction of work specified.

3.03 TRENCH WIDTH

- A. Trenches for pipe construction shall be excavated to a width that will provide enough working space next to the pipe and facilitate proper compaction of backfill material around the haunches of the pipe. All such trench excavation shall comply with the manufacturer's recommendations for the type of pipe used.
- B. Excavation for structures such as manholes, inlets, pump stations, etc. shall be large enough to provide adequate working room. A minimum distance of two feet shall be provided between the outside edge of the structures and the side or wall of the excavation to allow for proper backfilling and compaction.

3.04. EXCAVATION

- A. All trenches shall be excavated by open cut unless otherwise indicated in the Contract Documents.
- B. The length of the open cut trench that is excavated ahead of the pipe laying operation shall not exceed half of the normal daily production length. The excavation and pipe laying operation shall be coordinated so that all pipe laid in one day is fully backfilled except for the last length of pipe in an unfinished run between structures.

3.05 ROCK EXCAVATION

- A. Where rock is encountered during the performance of work specified in this section, the rock shall be excavated in accordance with Stantec Specifications Section 02820 EXCAVATION AND EMBANKMENT.

3.06 UNSUITABLE MATERIALS

- A. Where materials unsuitable for backfilling are encountered during trench excavation, these materials shall be separated from the suitable materials and disposed of off-site or utilized on-site in embankment areas as authorized by the OWNER's Representative.

3.07 REPLACEMENT MATERIAL

- A. Where unsuitable material including rock larger than six inches is excavated and hauled off-site, replacement material shall be acquired from on-site excavation as provided by the Contract Documents or as authorized by the OWNER. Where replacement material is not available from the site, the CONTRACTOR shall furnish fill material from an off-site borrow

source. Only materials that conform to Article 2.02 of this section may be used for backfilling operations unless otherwise specified in the Contract Documents or authorized in writing by the OWNER's Representative.

3.08 PREPARATION OF TRENCH BOTTOM

- A. Where rock is encountered at the bottom of the trench, the trench shall be undercut to a depth of at least six inches below the bottom of the pipe to allow for a bedding cushion above the rock.
- B. Where muck, roots or other organic materials are encountered at the bottom of the trench, the trench shall be undercut to remove the unsuitable material to the satisfaction of the OWNER's Representative.
- C. The CONTRACTOR shall dewater the excavation operation as required to provide a dry trench bottom. Prior to beginning work CONTRACTOR shall prepare their dewatering plan and obtain all necessary permits.

3.09 BEDDING

- A. Where the exposed material at the bottom of the trench meets the requirements of Article 2.01 this section, the existing material may be used as bedding, provided it is compacted.
- B. Where the bottom of the trench has been undercut to remove rock or unsuitable material, the bottom shall be brought up to grade by placing and compacting bedding materials conforming to the requirements of Article 2.01 this section.
- C. In exceptionally wet conditions, the CONTRACTOR may request permission from the OWNER's representative to lay the pipe in water. If that request is authorized, the CONTRACTOR shall undercut the existing bottom a minimum of six inches and replace with "bedding material" conforming to Article 2.01A or 2.01C this section. This bedding material shall be tamped and consolidated to provide a solid and unyielding base for the pipe. During this operation, the CONTRACTOR shall continue the dewatering process to facilitate adequate installation of the pipe or structure and to permit observation of the process by the OWNER's representative. The additional undercut excavation, crushed stone bedding, and other associated costs shall be at the CONTRACTOR's expense and no extra compensation will be allowed.

3.10 BACKFILLING

- A. Backfilling of pipe trenches shall be done in three stages as follows:
 - 1. First Stage: Material above the bedding and beneath the haunches compacted in six-inch layers.
 - 2. Second Stage: Material along the sides of the pipe up to at least one foot above the top of the pipe compacted in six-inch layers.
 - 3. Third Stage: Material above the second stage up to the bottom of the subgrade or the finished surface as applicable compacted in 12-inch layers.

- B. Backfilling of structures shall be done in 12- inch compacted layers up to the top of the completed or partially completed structure.
- C. Materials used for backfilling shall comply with the requirements of Article 2.02 this section or as otherwise authorized in writing by the OWNER's representative. For backfilling of pipe, "Select Fill" shall be used for the first and second stages. "Common Fill" shall be used for the third stage of pipe backfill and for backfilling structures.

3.11 COMPACTION

- A. The compaction requirements for backfilling pipe trenches and around structures are listed below under the following categories. These requirements are the minimum percentages of the maximum density determined by the "Modified Proctor Density" (ASTM D-1557).
 - 1. Under and adjacent (within ten feet) to pavement shall be 95 percent except within three feet of bottom of subbase grade it shall be 98 percent.
 - 2. Not under pavement: Any area outside the 10 feet referred to above shall be 95% for all stages.

These requirements are the minimum percentages of the maximum density determined by the "Modified Proctor Density" (ASTM D-1557).
 - 3. Under and adjacent (within ten feet) to structures shall be 95 percent except within three feet of finished grade it shall be 98 percent.
- B. The CONTRACTOR shall add water or dry out the material used for backfilling until the moisture content is within two percent of the optimum moisture required to achieve the maximum compaction.
- C. A density test shall be taken for each 300 lineal foot section of trench or part thereof for each layer.
- D. A density test shall be taken for every other layer for each structure.

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. Unless otherwise specified in the Contract Documents, the cost of trenching and backfilling shall be included in the various lump sum and unit prices in the contract.

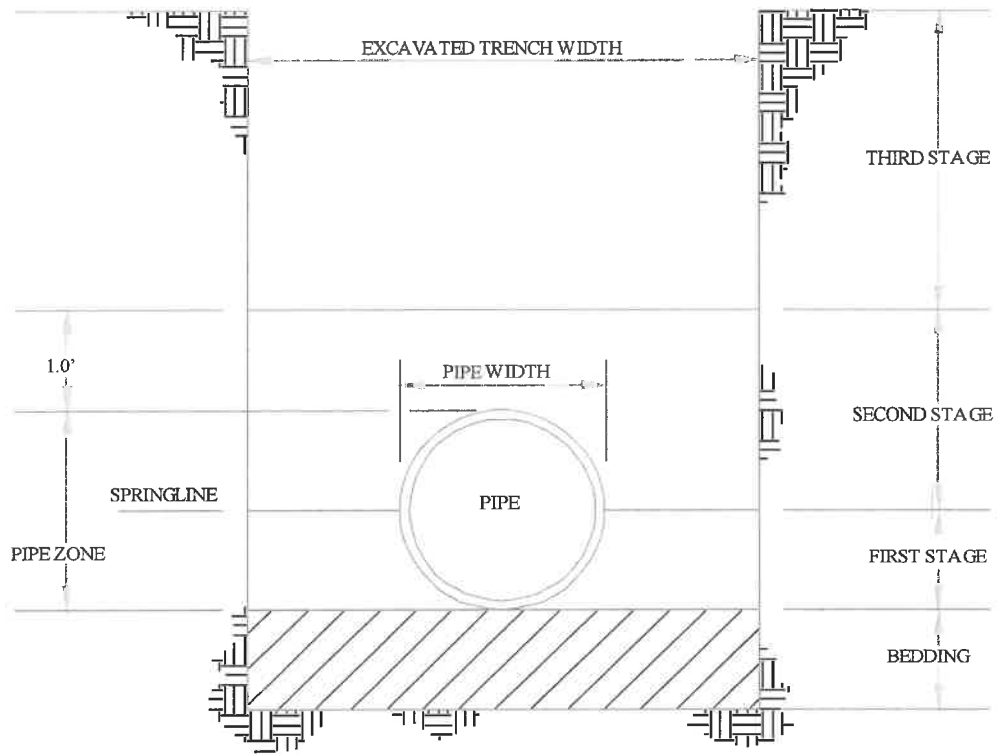


FIGURE A

N.T.S.

END OF SECTION 02703

**SECTION 02704
TEMPORARY TRAFFIC CONTROL**

PART 1 GENERAL

1.01 SCOPE

- A. This section specifies temporary traffic control for the project as shown on the plans and/or called for in the specifications. In general, all temporary traffic control shall comply with the latest editions of the Florida Department of Transportation's Standard Specifications for Road and Bridge Construction, herein referred to as FDOTSPEC, the Florida Department of Transportation's Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System, Index 600, and the Federal Highway Administration's Manual on Uniform Traffic Control Devices, Part 6, Temporary Traffic Control.

- B. The main objective of this section is to provide safe and efficient movement of vehicles, bicyclists and pedestrians through or around the work zone, and protect workers and equipment from the traveling public.

The secondary objective of this section is to provide efficient completion of the construction or maintenance activity causing the interruption of normal roadway use, and protection of the work in progress.

1.02 SPECIFICATIONS AND STANDARDS

- A. The work specified in this section shall be in accordance with the documents identified in Article 1.01.A. and the requirements of the authority having jurisdiction over the operation and maintenance of the roadway, bicycle and/or pedestrian path.

PART 2 PRODUCTS

2.01 MATERIALS

- A. All materials used for temporary traffic control, including but not limited to signs, signals, pavement markings, channelizing devices, warning lights and barriers shall meet the requirements of the documents identified in Articles 1.01.A. and 1.02.A.

PART 3 EXECUTION

3.01 GENERAL REQUIREMENTS

- A. All work required for temporary traffic control shall be executed in accordance with the requirements of the documents identified in Articles 1.01.A. and 1.02.A.

3.02 SPECIFIC REQUIREMENTS

- A. In addition to the CONTRACTOR providing a worksite traffic supervisor in accordance with FDOTSPEC Section 102-3.2, the Traffic Control Plan (TCP) shall be installed, maintained and removed under the direct supervision of an individual who is certified by a Florida Department of Transportation (FDOT) approved training agency, which meets the FDOT's maintenance of traffic training requirement for intermediate or advanced training.
- B. The CONTRACTOR will maintain the existing number of lanes of traffic in each direction at all times by using existing or constructing temporary pavement. There shall be no lane closures or road closures without the prior written approval of the ENGINEER and the authority having jurisdiction over the operation and maintenance of the roadway.
- C. The CONTRACTOR shall not provide detours to re-route vehicle, bicycle and/or pedestrian traffic around the work zone without prior written approval from the ENGINEER and the authority having jurisdiction over the operation and maintenance of the roadways.
- D. If approved by the ENGINEER and the authority having jurisdiction over the operation and maintenance of the roadway, the CONTRACTOR may concurrently construct portions of the work from different phases.
- E. If the CONTRACTOR cannot maintain the existing access to a current residence or business, then the CONTRACTOR shall provide an alternate access, as approved by the ENGINEER.
- F. All surfaces used to maintain traffic through the work zone shall be paved.
- G. Any alterations to the approved traffic patterns must be reviewed and approved by the ENGINEER prior to implementation, unless the alterations are required to avoid eminent danger to the public or the workers present within the approved work zone.
- H. All temporary traffic control devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time, temporary traffic control devices that are no longer appropriate shall be removed or covered.

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. Payment for temporary traffic control shall be on a lump sum basis in accordance with the accepted proposal. Such payment shall constitute full compensation for furnishing all labor, materials, and equipment necessary to complete the construction in accordance with the plans and specifications.

END OF SECTION 02704

**SECTION 02705
RESTORATION AND GENERAL REQUIREMENTS**

PART 1 GENERAL

1.01 SCOPE

- A. The work specified in this section consists of restoring existing surfaces or any improvements such as but not limited to pavement, curb and gutter, sidewalk, structures, signs, or landscaping damaged during construction.

1.02 SPECIFICATIONS AND STANDARDS REFERENCE

- A. Any reference to a supplementary specification or standard such as ASTM, AWWA, AASHTO, is intended to be a reference to the latest edition of that specification or standard.
- B. All references to "FDOTSPEC" shall mean the latest edition of the "Florida Department of Transportation Standard Specifications for Road and Bridge Construction."
- C. Stantec Specifications Section:

02703 TRENCHING AND BACKFILLING FOR PIPING

PART 2 PRODUCTS

2.01 MATERIALS

- A. Flexible Pavement: Comply with requirements of Sections 901, 902, 911, 913, 914, 916, and 917 of the FDOTSPEC.
- B. Concrete Pavement, Driveway, Sidewalk, Curb and Gutter: Comply with requirements of Sections 901, 902, 921, 923, 924, and 925 of the FDOTSPEC.
- C. Grassing: Comply with requirements of Section 981, 982, and 983 of the FDOTSPEC.

PART 3 EXECUTION

3.01 GENERAL

- A. Existing property damaged during construction shall be restored to a condition at least equal to the original condition of the property, unless otherwise specified in the Contract Documents.
- B. Existing roadway or drainage improvements damaged within a roadway or drainage right-of-way or easement shall be restored in accordance with the requirements of the state, county, and city agencies having jurisdiction thereof.

3.02 UNDERGROUND FACILITIES

- A. Existing underground utilities and drainage systems damaged during construction shall be immediately repaired to the specifications of the owner of the damaged system. Where the utility owner elects to make said repairs under their direction, the CONTRACTOR shall pay for such repair costs directly.
- B. Where damage to existing underground utilities is anticipated due to unavoidable conflicts, the CONTRACTOR shall construct their work so as to cause the least amount of interruption of service as possible.
- C. Where construction changes the land surface elevation and existing valve boxes are present, the valve box will be extended or reduced by means of new extension pieces of proper length for the finished grade.

3.03 TRENCHING AND BACKFILLING

- A. Any trenching and backfilling required to satisfy the requirements of this section shall be in accordance with Section 02703, TRENCHING AND BACKFILLING FOR PIPING.

3.04 PAVEMENT CUTS

- A. On dead end streets, collector streets, and high traffic streets, trenching and pipe laying shall be performed in such a manner that at least one-way traffic is maintained at all times.
- B. All trench lines across existing pavements, driveways, sidewalks, curbs, etc. shall be saw cut in straight parallel lines prior to trench excavation.
- C. CONTRACTOR shall exercise care to minimize amount of pavement, sidewalk, driveways, and curbing to be removed.

3.05 CONCRETE PAVEMENT, CURB AND GUTTER, ETC.

- A. Concrete pavement, driveway, sidewalk, and curb and gutter damaged during construction shall be restored to the same dimensions as that removed or as specified in the Contract Documents. All such restoration shall be in accordance with the applicable Sections 345, 350, 520, 522, of FDOTSPEC.
- B. Prior to placing concrete, the subgrade shall be compacted to at least 98% of the maximum density determined by the "Modified Proctor Density" (ASTM D-1557).

3.06 FLEXIBLE PAVEMENT

- A. Stabilized subgrade damaged during construction shall be restored in accordance with Section 160 of FDOTSPEC. The restored stabilized subgrade shall have a minimum bearing value of LBR-40, and be compacted to at least 98% of the maximum density determined by the "Modified Proctor Density" (ASTM D-1557).

- B. Soil cement or shell base damaged during construction shall be restored in accordance with Section 200 of FDOTSPEC. The minimum density of the restored base shall be 98% of the maximum density determined by the "Modified Proctor Density" (ASTM D-1557). After completion of the base course, a bituminous prime coat shall be applied in accordance with Section 300 of FDOTSPEC when applicable prior to placement of asphalt surface course.
- C. Asphalt surfaces damaged during construction shall be replaced with a similar surface in accordance with Section 330 of FDOTSPEC. The material used shall be the same type and the thickness of that damaged, except that the minimum thickness shall be one inch. In the case of multiple layers, each layer or course of the damaged asphalt surface shall be reconstructed to duplicate the original.

3.07 LANDSCAPING AND MISCELLANEOUS

- A. Trees and bushes damaged during construction shall be removed and replaced with equal size and type by the CONTRACTOR at their expense unless otherwise specified in the Contract Documents.
- B. Grassed areas damaged during construction shall be repaired with the same type sod unless otherwise specified in the Contract Documents.
- C. Sodding and grassing and mulching operations shall begin within a maximum of three (3) weeks after utility installation, except in cases of front and back slopes which shall be done immediately following installation completion. Any yards or part of right-of-way in front of private property, that has a grass mat, shall be re-sod with like sod. CONTRACTOR shall maintain disturbed areas until acceptable vegetation is re-established.
- D. Areas without established grass mats in front of vacant lands shall be restored by seeding and mulching. The grass mat shall be restored to the required design or finished grade to permit proper drainage.
- E. Unimproved areas such as an open field or lot having its surface disturbed during construction shall be graded to duplicate the existing conditions and seeded and mulched unless otherwise specified in the Contract Documents.
- F. Any damage to an existing irrigation system caused by the construction operations shall be repaired by the CONTRACTOR prior to the installation of sod, seed, or other landscaping unless otherwise specified in the Contract Documents.
- G. Mailboxes, railroad ties, or any other miscellaneous items damaged during construction shall be repaired to the satisfaction of the OWNER's representative unless otherwise specified in the Contract Documents.

3.08 DENSITY TESTS

- A. Density tests shall be performed in accordance with 3.08B and elsewhere in the specifications as may apply. The CONTRACTOR shall pay for all tests related to restoration work.

- B. Field density tests shall be required for each stage of fill, stabilized subgrade, soil cement base, and asphalt surface in accordance with the frequency listed below unless otherwise authorized by the OWNER's representative.
- * Transverse Trench Crossing - one/location/stage
 - * Longitudinal Trench - one/300 LF/stage
 - * Pavement Repair - one/1000 SY/stage
- C. Concrete shall be tested for slump, air content, and compressive strength every 50 cubic yards for continuous pours. For smaller volume work, the same tests shall be taken for each separate pour. A minimum of four (4) sample cylinders shall be made when testing for compressive strength.

3.09 GENERAL REQUIREMENTS

- A. Maintenance of Service - CONTRACTOR shall provide facilities and be responsible for protection of all structures, buildings and utilities, underground, on the surface, or above ground, against trenching, dewatering or any other activity connected with work covered by this modifications of existing utilities, CONTRACTOR shall provide for maintaining continuous water electric, telephone, gas, sewage and other utilities, to all present customers of such utilities unless approval is obtained in writing from the utility company or OWNER for the interruption of such services.
- B. Existing Facilities - Underground structures shown on the plans are according to the best available information, but it shall be the responsibility of the CONTRACTOR to acquaint himself with the exact location and to avoid conflict with all existing facilities. Where underground structures are damaged, they shall be immediately repaired to the specifications of the owner of the utility. If the owner of the utility elects to make such repairs with their own forces, CONTRACTOR shall make arrangements as to protect the OWNER from all damages. Where such conflicts are unavoidable, every effort shall be made to construct the work so as to cause as little interference as possible with services rendered by the structure disturbed.
- C. Utility Installation Permits - CONTRACTOR shall obtain necessary permits for construction across public and private property, streets, railroads, telephone lines, power lines, etc. CONTRACTOR shall abide by all rules, regulations and requirements of the owner of such property in regard to construction under this contract, including giving of notices, provisions for inspection and employment of such methods of construction as may be required. Costs of any permits shall be incidental to construction and reflected in unit prices bid.
- D. Work in State Rights-of-Way - Construction in state rights-of-way shall comply with the State of Florida Department of Transportation (FDOT) Utility Accommodation Guide.
- E. Work in County/City Rights-of-Way - Construction in county/city rights-of-way shall comply with the utility accommodation manual for the agency having jurisdiction.

- F. Clearing of Excavation Corridor - Only items necessary to provide adequate work space including space for hubs, batter boards, and equipment shall be removed within the right-of-way, easement, or designated construction corridor. Trees, shrubbery, poles, mailboxes, and other items not to be removed shall be protected from damage during construction. When necessary to cut tree roots and branches, such cutting shall be performed with saws in a neat and workmanlike manner.

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. There shall be no separate payment for any work defined in this section. The cost of any such restoration work shall be included in the various work items that necessitate the restoration unless otherwise specified in the Contract Documents. Any reference to unit price payment in the FDOTSPEC shall not be applicable.

END OF SECTION 02705

**SECTION 02706
WATER LINES**

PART 1 GENERAL

1.01 SCOPE

- A. The scope of this section covers materials and work necessary for construction, connection, and placing into operation the water distribution system shown on the plans and herein described and specified.

1.02 SPECIFICATION AND STANDARD REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc., are referenced, such references shall be the latest edition.
- B. Stantec Specifications Sections:

 02703 TRENCHING AND BACKFILLING FOR PIPING
 02705 RESTORATION AND GENERAL REQUIREMENTS

PART 2 PRODUCTS

2.01 MATERIALS

- A. All pipe shall be designed for a minimum working pressure of 150 psi unless otherwise specified.
- B. Ductile Iron Pipe - Pipe shall meet the requirements of AWWA C-151. Minimum thickness class shall be Class 51 or as specified. Pipe shall be cement lined and interior seal coated in accordance with AWWA C-104. Pipe exterior shall be coated with bituminous coating.
- C. Polyethylene Encasement - In areas where called for on the plans, ductile iron pipe shall be polyethylene encased. Polyethylene encasement shall meet the requirements of AWWA C-105, and shall be the color blue. CONTRACTOR shall inform the ENGINEER should they encounter muck, peat or similar soils which are generally corrosive in areas without encasement specified to verify if it should be added. In Sarasota County all ductile iron pipe shall be encased,
- D. Polyvinyl Chloride Pipe (PVC) - PVC 4-inch through 12-inch diameter shall meet requirements of AWWA C-900. Minimum thickness class shall be Class 150 (DR 18) unless otherwise shown on the plans or in the specifications. Pipe bell shall be monolithic and integral to pipe barrel.
- E. Polyvinyl Chloride Pipe (PVC) - PVC 14-inch through 36-inch diameter shall meet the requirements of AWWA C905. Minimum thickness class shall be DR25, rated for 150 psi pressure class, unless otherwise shown on the plans or in the specifications. Pipe bell shall be monolithic and integral to pipe barrel.

F. Fittings and Joints

1. Fittings for ductile iron pipe: Pipe fittings for ductile iron pipe shall be ductile iron, mechanical joint with retainer glands. Fittings shall have a minimum rated working pressure of 350 psi, and conform to AWWA C-110 or C-153. Fittings shall be thickness cement lined, interior seal coated, and exterior bituminous coated in accordance with AWWA C-104.
2. Pipe joints: Pipe joints shall be push-on type meeting the requirements of AWWA C-111 except where specifically shown or detailed otherwise.
3. Restrained joints: Restrained joints, where required, shall be American Fastite Joint with Fast Grip Gasket, or approved equal.
4. Flanged pipe: Flanged ductile iron pipe shall meet the requirements of AWWA C-115. Gaskets shall be American Toruseal Full-Face or approved equal.
5. Fittings for polyvinyl chloride (PVC) water mains: Pipe fittings for PVC water pipe shall be ductile iron and shall have a minimum rated working pressure of 350 psi. Fittings shall be mechanical joint and shall meet the requirements of AWWA C-110 or C153. Fittings shall be cement lined, interior seal coated, and exterior bituminous coated in accordance with AWWA C-104. Where C-900 or C-905 PVC fittings are available and acceptable to the utility, they shall be utilized.

G. Gasket Joint Lubrication

1. CONTRACTOR shall only use pipe joint lubricant supplied by or recommended by the pipe manufacturer. Lubricant shall be water-soluble, non-toxic, an inhibitor to bacterial growth, and shall be non-detrimental to the elastomeric seal and pipe. Mineral oil, petroleum jelly, hydrogenated vegetable fat (i.e. Crisco (RR), petroleum products, cooking oil, grease, etc.) shall not be used.

H. Fire Hydrants

1. Fire hydrants, materials, and installation shall conform to specifications of the governing fire department. In general, fire hydrants shall conform to requirements of AWWA Specification C 502, "Dry Barrel Fire Hydrants." They shall have a minimum six-inch connection, two 2½-inch hose nozzles, and one 4½- inch steamer nozzle. All nozzles shall have American National Standard Hose Thread.
2. The hydrant valve shall be 5¼ inches minimum and hydrant lead shall have an auxiliary valve (not bolted to the hydrant) six inches in size or larger, as indicated. Auxiliary valve shall be installed on the lead to all hydrants including those having a breakable feature at the ground line. The pentagonal operating nuts and the cap nuts shall be 1½ inches point to flat. Drain valves for the hydrants shall be omitted. Hydrants shall open counter clockwise and direction of opening shall be cast on the top. Bury length

measured from bottom of connecting pipe to the ground line at the hydrant shall be three feet minimum. For unusual depths of water main, bends or offsets shall be used to bring the hydrant to grade.

Where this procedure is not feasible, bury length may be increased or special extension sections used.

3. Auxiliary valve shall be attached to the main using anchor tee and valve fittings. The distance from center of pumper nozzle to finished grade shall be 18 inches minimum and 24 inches maximum. Painting shall be in accordance with requirements of the agency having jurisdiction. Fire hydrants shall be restrained to the fitting in the main. Hydrants shall have a sealed bonnet oil reservoir which lubricates internal threaded and bearing surfaces. Hydrants shall be traffic type with breakaway flange construction. CONTRACTOR shall submit manufacturers details and certified hydrant flow data to ENGINEER for review and approval prior to ordering of materials.

I. Valves - Buried

1. Gate Valves: Three Inch Through Twelve Inch:
 - a. In general gate valves three inches in size and larger shall be cast iron body, cast iron gate, and disc with rubber coating, resilient sealing mechanism, non-rising stem, open left (counter clockwise) with two inch square operating nuts. They shall meet the requirements of AWWA C-509 and C-550, and shall bear name of manufacturer and water rating cast into valve body in raised letters.
2. Gate Valves - Less than Three Inch:
 - a. Gate valves under three inches in size shall be as in above or shall be 125 pounds, Bronze Gate Valves conforming to M.S.S. Standard Practice SP-37. They shall be double-disc, non-rising stem, open left (counter clockwise) with operating wheel. Pewter and pot metal operating wheels will not be permitted. Valves shall be of United States manufacture.
3. Butterfly Valves - Greater Than Twelve Inch:
 - a. Buried service butterfly valves shall be of the rubber seat type, with enclosed geared operators and integrally cast mechanical joint ends, all in accordance with AWWA C-504, Class 150-B. Valves shall have cast iron body, ductile iron valve disc, Type 304 stainless steel valve shaft, and self-lubricating nylon sleeve type shaft bearings. Valve seats shall be Buna-N, in the body or on disc.
 - b. Operators shall be fully gasketed and oil filled to withstand an external water pressure of 10 psi minimum. A valve position indicator shall be furnished for installation in each valve box. Indicator shall be hermetically sealed for installation inside a cast iron valve box and shall show valve disc position, direction of

rotation and number of turns from fully opened to fully closed. Indicator shall be provided by the valve manufacturer, complete. Valves shall be Henry Pratt Company "Groundhog," Crane "Monarch" with ground level position indicator, or approved equal.

4. Valve Boxes

- a. Valve boxes shall be telescoping type, cast iron with 5¼-inch shaft. The word WATER shall be cast into the top of the lid. Extension pieces, if required, shall be manufacturer's standard type for use with valve box.

5. Extension Stems For Valve Operators

- a. Where depth of the operating nut is more than three feet, operating extension shall be provided to bring the operating nut to a point 18 inches below the surface of the ground or pavement. Extension stem shall be constructed of stainless steel.

6. Valve Coating

- a. Valves shall have a factory applied epoxy lining and exterior coating meeting the requirements of AWWA C-550. Valve lining shall be NSF approved for potable water.

J. Air and Vacuum Release Valve Assemblies

1. General - Air valve assembly shall include all work necessary, including tapping main pipeline, installing service saddle, piping, valve, cabinet, slab, and any incidental excavation and backfill as may be required to install the valve, complete as detailed on the plans. Valve shall be epoxy lined and coated at the factory.

K. Continuous Service Connections (Hot Taps)

1. Continuous service connections (Hot Taps) of existing in-service pressure mains shall be made where called for on the plans. Hot taps shall be performed in accordance with requirements of the agency having jurisdiction over the utility system.
2. Valve shall meet all requirements for gate valves. Tapping sleeve shall be stainless steel or ductile iron.
3. Prior to cutting, the installed tapping sleeve and tapping valve shall be pressure tested at 150 psi in accordance with the pressure testing section of these specifications. Following the accepted pressure test, the CONTRACTOR shall obtain the utility agency's approval prior to cutting the in service main.
4. Cutting of existing main shall be made with a tapping machine in excellent operating condition as approved by the utility agency and the ENGINEER.

- L. Metalicized identification tape shall be buried approximately 18 inches above PVC pipe. Non-metalicized tape shall be buried approximately 18 inches above ductile iron pipe. Tape width shall be three-inch minimum. Tape colors and imprints shall be as follows:

<u>Imprint</u>	<u>Color</u>
1) Caution - Potable Water Line Buried	Blue

PART 3 EXECUTION

3.01 MATERIAL HANDLING

- A. Pipe and accessories shall be loaded and unloaded by lifting with hoists or skidding in a manner that will avoid shock or damage. Under no circumstances shall such materials be dropped. Pipe handled on skidways shall not be skidded or rolled against pipe already on the ground. In distributing material at the site of the work, each piece shall be off-loaded near the place where it is to be laid in the trench.
- B. Pipe shall be handled so coating and lining will not be damaged. If, however, any part of the coating or lining is damaged, repair shall be made by CONTRACTOR according to recommendations of the manufacturer and satisfactory to ENGINEER.
- C. PVC Pipe shall remain covered when exposed to the sun for four weeks or more. Faded color and/or warped lengths shall be cause for rejection of the materials.

3.02 TRENCHING AND BACKFILLING

- A. Excavation, bedding, and backfilling of trenches during the construction of water lines shall comply with the requirements of Stantec Specifications Section 02703, TRENCHING AND BACKFILLING FOR PIPING.
- B. Bell Holes - Holes for the bells shall be provided at each joint, but shall be no longer than necessary for joint assembly and assurance the pipe barrel will lie flat on the trench bottom.

3.03 INSTALLATION

- A. General
 - 1. All construction shall be performed in strict accordance with the manufacturer's recommendations. No sand or foreign material shall be allowed to enter the pipe. Ends shall be suitably plugged when pipe laying is not in progress.
 - 2. Only one connection to the existing distribution system will be allowed until after lines have been tested and sterilized in accordance with specifications. This connection shall utilize a metered jumper assembly with backflow preventer sized to provide flushing capabilities. All tie-ins will be accomplished under field inspection of a representative of the OWNER of the utility to which connection is being made.

3. Ductile iron pipe shall be installed in accordance with pipe manufacturer's recommendations, in accordance with AWWA C-600. Unless otherwise specified, ductile iron pipe shall be installed per laying condition Type 2, AWWA C-600.
4. PVC pressure pipe and appurtenances shall be installed in accordance with the special requirements of the pipe manufacturer. In addition, the pipe installation shall follow The Uni-Bell Pipe Association, Handbook of PVC Pipe Design and Construction, AWWA, and the governing utility agency requirements as applicable.
5. PVC pipe spigot ends shall be installed into bell ends so manufacturer's spigot end reference mark is even with the outside edge of the bell. Field cut pipe shall be remarked with a spigot end reference mark in accordance with pipe manufacturer's specifications, or by remarking from a factory marked end of the same pipe diameter.
6. Any service connections, blow-offs, or air relief ports called for on the plans shall be made by means of a double strap tapping saddle or by use of a ductile iron tee and fittings.

B. Pipe Laying

1. Pipe lines shall be laid and maintained to required lines and grades with fittings and valves at required locations, spigots centered in bells, and all valve stems plumb.
2. Pipe and fittings shall be inspected for defects and all lumps, blisters and excess coal-tar coating removed from the bell and spigot ends of each length of pipe. Outside of the spigot and inside of the bell of all pipe shall be wiped clean and dry before pipe is laid.
3. Every precaution shall be taken to prevent foreign material from entering the pipe while being placed. ENGINEER may require that before lowering the pipe into the trench, a heavy, tightly woven canvas bag of suitable size shall be placed over each end and left there until the connection is made to preceding pipe. During laying operations no debris, tools, clothing or other material shall be placed in the pipe.
4. After placing a length of pipe in the trench, the spigot end shall be centered in the bell and the pipe forced home and brought to correct line and grade. Pipe shall be secured in place with approved backfill material tamped under it except at the bells. Pipe and fittings which do not allow a sufficient and uniform space for joints shall be removed and replaced with pipe and fittings of proper dimensions to insure such uniform space. Manufacturer's recommendations as to limits of deflection of joints shall be strictly adhered to.
5. At times when pipe laying is not in progress, the open ends of pipe shall be closed by a watertight plug or other means approved by the ENGINEER. Joints of pipe in the trench which cannot be completed shall be caulked with packing to make them as watertight as possible. This provision shall

apply during the noon hour as well as overnight. If water is in the trench, seal shall remain in place until the trench is pumped completely dry.

6. Cutting of pipe for inserting valves, fittings or closure pieces shall be done without damage to the pipe or lining, and so as to leave a smooth end at right angles to the axis of the pipe. All pipe shall be cut in accordance with the pipe manufacturer's specifications and recommendations.
7. Water mains shall be installed no closer than ten feet (outside to outside) to sanitary sewers, storm sewers, force mains and restricted public access reclaimed water mains.
8. Water mains shall be installed no closer than three feet (outside to outside) from public access reclaimed water mains.
9. Whenever water mains cross any sanitary sewers, storm sewers, force mains, or reclaimed water lines, the water mains cross above such pipelines with a minimum vertical distance of 18 inches between the outside of the water mains and the outside of such pipelines or such crossings shall be arranged so that all pipe joints are equidistant from the point of crossing with no less than ten feet between any two joints (or, alternatively, the sanitary sewers, storm sewers, force mains, and reclaimed water lines at such crossings are placed in sleeves or encased in concrete to obtain the equivalent of the ten foot separation between joints. In all cases, the minimum cover called for on the plans shall be maintained.

C. Jointing

1. Mechanical Joint Pipe - All mechanical joints shall be made up in strict accordance with the manufacturer's specifications using such special tools as stipulated by them. Gaskets shall be evenly seated, the gland placed in position, and bolts hand tightened before final tightening with wrenches.
2. Compression - Pipe utilizing rubber gasket compression type joints shall be coupled in accordance with the printed instructions furnished by the pipe manufacturer.
3. PVC Polyvinyl Chloride Pipe - PVC pipe shall be coupled in strict accordance with the printed instruction of the pipe manufacturer.

D. Cover

1. In general, cover on all pressure pipes shall be 36 inches minimum or as shown on the construction plans. Grade of sanitary sewer service laterals shall be considered in field determination of pipe cover.

E. Anchoring

1. All plugs, caps, tees, valves, and bends deflecting $11\frac{1}{4}^{\circ}$ or more and connecting mains shall be provided with restrained joints, or movement shall be prevented by means of thrust blocking, metal rods or clamps as

shown or specified. System design to be based upon a 150 psi working pressure times a safety factor of 2.0. See restraining joint tables on the plans for lengths required.

F. Transition Details

1. At locations of interconnections, bypasses, manifolds, pipe size changes or other transitions requiring numerous fittings and adapters, ENGINEER may require the CONTRACTOR to submit for approval detailed shop drawings of the respective transition prior to construction. Where detailed drawings at such transitions are included on the plans, CONTRACTOR may submit for approval detailed plans of alternate design. In any case, prior to construction of a transition, CONTRACTOR shall inform ENGINEER of the proposed design, including number of type of fittings, for approval.

G. Valve Installation

1. Before installation, valves shall be thoroughly cleaned of all foreign material, and inspected for proper operation. Valves shall be installed so stems are vertical, unless otherwise directed by the ENGINEER. Jointing shall meet the requirements of AWWA C-600. Joints shall be tested with adjacent pipeline. If joints leak under test, valves shall be disconnected and reconnected, and pipeline retested.
2. Faces of flanges shall be cleaned thoroughly before flanged joint is assembled. After cleaning, the gasket shall be inserted and the nuts tightened uniformly around the flange. If flanges leak under test, the nuts shall be loosened, the gasket reset or replaced, the nuts re-tightened, and the valve and pipeline retested.
3. Provide bronze disks cast in valve pads per details on the plans.

H. Valve Box Installation

1. Center valve boxes and set plumb over the valve. Set valve boxes so they do not transmit shock or stress to the valves. Set valve box covers to finished grade or as shown. Cut extensions to the proper length so valve box does not ride on the extension when set at grade.
2. Backfill shall be the same as specified for the adjacent pipe. Place backfill around the valve boxes and thoroughly compact to a density equal to that specified for the adjacent trench and in such a manner that will not damage or displace the valve box from proper alignment or grade.

3.04 HYDROSTATIC TESTS

- A. After a new water main has been laid and backfilled, it shall be flushed for a sufficient time to replace the water in the main at least twice. All flushing shall be full-bore flush.

- B. Main shall then be pumped to a pressure of 150 psi and all visible leaks stopped by approved methods. A leakage test shall then be conducted at the above pressure. No installation will be accepted by the agency having jurisdiction until the leakage is less than the number of gallons per hour as determined by the formula below

$$L = \frac{S D (P)^5}{133,200}$$

in which L equals the allowable leakage in gallons per hours; S is length of pipe tested in feet; D is the nominal diameter of the pipe in inches; and P is the average test pressure during the leakage test, in pounds per square inch gauge. The test shall be maintained for two hours. Water supplied to the main during the test to maintain required pressure shall be measured by a five-eighths inch meter installed on the discharge side of the test pump, or by pumping from a calibrated container, all in accordance with AWWA C-600. All visible leaks shall be repaired regardless of the leakage allowance.

3.05 DISINFECTION

A. General

1. Pipelines shall be disinfected before placing in service. Disinfecting procedures shall meet the requirements of AWWA C 651 and Chapter 62-555, F.A.C. (Florida Administrative Code) as hereinafter modified or expanded and requirements of any governing agency having jurisdiction. On main breaks, cut-ins, etc., a liberal application of calcium hypochlorite shall be made.

B. Flushing

1. Before disinfecting, all foreign matter shall be flushed from the pipeline. Provide hoses, temporary pipes, ditches, etc., as required to dispose of flushing water without damage to adjacent properties. Flushing velocities shall be at least 2.5 fps. For large diameter pipe where it is impractical or impossible to flush the pipe at 2.5 fps velocity, clean the pipeline by means of "pigging" at a lower velocity. CONTRACTOR shall obtain the governing utility's approval prior to flushing and shall report the gallons used in the flushing operation to the utility department and the ENGINEER.

C. Disinfecting Mixture

1. Sterilizing mixture shall be a chlorine-water solution having a free chlorine residual of 50 ppm. The mixture shall be prepared by injecting: (1) a liquid chlorine gas-water mixture; or (2) a calcium or sodium hypochlorite and water mixture into the pipeline at a measured rate while fresh water is allowed to flow through the pipeline at a measured rate so the chlorine-water solution is of the specified strength.

D. Point of Application

1. Inject the chlorine mixture into the pipeline to be treated at the beginning of the line through a corporation stop or suitable tap in the top of the pipeline. Water from the existing system or other approved source shall be controlled so as to flow slowly into the newly laid pipeline during the application of chlorine. The rate of chlorine mixture flow shall be in such proportion to the rate of water entering the pipe that the combined mixture shall contain 50 ppm of free available chlorine. Valves shall be manipulated so that the strong chlorine solution in the line being treated will not flow back into the line supplying the water. Use check valves if necessary.

E. Retention Period

1. Treated water shall be retained in the pipeline long enough to destroy all non spore-forming bacteria, 24 hours minimum. At the end of the 24-hour period, the sterilizing mixture shall have a strength of at least 10 ppm of chlorine.
2. Operate all valves, hydrants, and other appurtenances during disinfection to assure the mixture is dispersed into all parts of the line, including dead ends, new services, and similar areas that otherwise may not receive the treated water.
3. Do not place concentrated quantities of commercial disinfection agents in the line before it is filled with water.
4. After chlorination, flush the water from the line until the water through the line is equal chemically and bacteriologically to the permanent source of supply.

F. Disposal of Disinfecting Water

1. Dispose of disinfection water in an approved manner. Do not allow disinfecting water to flow into a waterway without adequate dilution or other satisfactory method of reducing chlorine concentrations to a safe level. It shall be the CONTRACTOR's responsibility to obtain necessary permits and approvals for disposal of the disinfecting waters.

3.06 BACTERIOLOGICAL TESTING

- A. After disinfection and final flushing, water main shall be bacteriologically tested in accordance with AWWA C 601, these specifications, requirements of the State of Florida Department of Environmental Protection, and the agency having jurisdiction over the water system.
- B. Bacteriological tests shall be performed by a State of Florida certified laboratory in accordance with "Standard Methods". Tests shall show an absence of coliform organisms. The tests shall be taken on two consecutive days. The number and locations of the tests shall be designated by the ENGINEER, the Health Department, or the Utility. At least one sample point shall be established on each

main and on each branch. On long runs, additional samples along the length of line will be required as well as at its end. The number of required samples shall conform to the requirements of the utility and the Florida Department of Environmental Protection.

- C. CONTRACTOR shall pay for bacteriological testing and shall include the costs in the unit prices.
- D. CONTRACTOR shall submit the bacteriological test results along with the record drawings to the ENGINEER. The bacteriological test results shall be a maximum of one week old at that time.

3.07 ADJUSTING EXISTING STRUCTURES

- A. Existing valve boxes, fire hydrants, or other similar items within the limits of the proposed work, that do not conform to the finished grade of the proposed pavement, or to the finished grade designated on the plans, shall be cut down or extended, and made to conform to the grade of the new pavement, or to the designated grade of the surface if outside of the proposed pavement area. The materials and construction methods for this work shall conform to the requirements specified above.

3.08 RESTORATION

- A. Existing surfaces or property improvements damaged during the construction of work specified in this section shall be repaired in accordance with the requirements of Stantec Specifications Section 02705, RESTORATION AND GENERAL REQUIREMENTS.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. The quantities of water lines to be paid for under this section shall be the lengths of the various types and sizes of pipe satisfactorily completed according to the Contract Documents. The pay quantity shall be in linear feet measured along the horizontal centerline of the pipe with no deductions for valves or fittings.
- B. Valves to be paid for under this section shall be the number of each size and type of valve, including valve box and extensions, satisfactorily installed according to the Contract Documents.
- C. Fire hydrants to be paid for under this section shall be the number of hydrant assemblies satisfactorily installed according to the Contract Documents. Each hydrant assembly shall include the hydrant, all fittings, extension as required to meet finished grade, pipe lead, auxiliary valve, valve box and cover, and concrete thrust block as required by the Contract Documents.
- D. Hot taps to be paid for under this section shall be the number of hot taps installed complete with tapping sleeve and tapping valve according to the Contract Documents.

- E. PVC Conduits for future water lines shall be paid for as established in the bid form section of the Contract Documents. Payment by the linear foot or for each lateral crossing shall include a locator disk at each end as an incidental cost to the pay item specified.
- F. Other miscellaneous items such as blow-offs and air release assemblies shall be paid for by the number of each pay item satisfactorily installed according to the Contract Documents. Each item shall include all components as shown in the plans or stated in the Contract Documents, such as manholes, castings, valves, fittings and other appurtenances as applicable.

4.02 BASIS OF PAYMENT

- A. The quantities, determined by the methods described above, shall be paid for at the contract unit prices established for each pay item. Such payment shall constitute full compensation for all work specified in this section including all labor, materials, equipment, and other incidental costs required to construct the work defined in this section.
- B. Unless otherwise specified in the Contract Documents, any fittings that are required to maintain horizontal and vertical alignment shall not be paid for separately. The cost of any such fitting shall be included in the contract unit price for the water line to which the fitting is connected.
- C. Unless otherwise specified in the Contract Documents, restoration work shall not be paid for separately. The cost of any such restoration work shall be included in the various work items that necessitate the restoration.

END OF SECTION 02706

**SECTION 02707
STORM SEWERS, PIPE AND STRUCTURES**

PART 1 GENERAL

1.01 SCOPE

- A. Work specified in this section consists of furnishing and installing a storm drainage system with all the component parts specified in the Contract Documents. Included are storm sewers, pipe culverts, manholes, crossing boxes, inlets, catch basins, pipe end treatments, restoration, and other similar items defined in this section.

1.02 SPECIFICATION AND STANDARDS REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc., are referenced, such references shall be the latest edition.
- B. Stantec Specifications Sections:

 02703 TRENCHING AND BACKFILLING FOR PIPING
 02705 RESTORATION AND GENERAL REQUIREMENTS
 03030 CONCRETE CONSTRUCTION
- C. All references to "FDOTSPEC" shall mean the latest edition of the "Florida Department of Transportation Standard Specifications for Road and Bridge Construction".
- D. All references to "FDOT INDEX BOOK" shall mean the latest edition of the "FDOT Roadway and Traffic Design Standards".

PART 2 PRODUCTS

2.01 CORRUGATED ALUMINUM ALLOY CULVERTS

- A. Aluminum alloy culvert pipe shall meet requirements of Section 945, FDOTSPEC. Where bituminous-coated aluminum pipe is specified, bituminous coating shall meet requirements of AASHTO M 190, for Type A, (Fully Bituminous Coated).

2.02 CORRUGATED STEEL PIPE AND PIPE ARCH

- A. Corrugated steel pipe, including round culvert pipe, pipe arch and under-drain, and coupling bands for each type, shall conform to requirements of Section 943, FDOTSPEC. Corrugated steel pipe shall be bituminous coated, both sides, in accordance with requirements of AASHTO M 190, Type A, (Fully Bituminous Coated).

2.03 REINFORCED CONCRETE PIPE

- A. Reinforced concrete pipe materials shall conform to Section 941, FDOTSPEC.

- B. Reinforced Concrete Pipe (Round) - Unless otherwise specified, reinforced concrete pipe shall meet the requirements of ASTM Designation C 76, "Standard Specification for Reinforced Concrete Pipe", Class III, Wall Thickness B. Lifting holes will not be permitted in pipe. CONTRACTOR shall only use pipe joint lubricants supplied by or recommended by pipe manufacturer. Lubricant shall be water-soluble, non-toxic, and inhibitor to bacterial growth, and shall be non-detrimental to the elastomeric seal and pipe. Mineral oil, petroleum jelly, hydrogenated vegetable fat (i.e. Crisco(r), cooking oil, grease, etc.) shall not be used. Joints for round reinforced concrete pipe shall be made by use of "O-Ring", round synthetic rubber gaskets meeting the requirements of Sections 430-7 and 942-1, FDOTSPEC. An 18-inch wide Mirafi wrap shall be centered on each joint.
- C. Reinforced Concrete Pipe (Elliptical) - Elliptical concrete pipe shall meet the requirements of ASTM C 507, except exceptions and modifications to ASTM C 76, as specified in Section 941-1.3, FDOTSPEC shall apply also to elliptical pipe. Standard elliptical pipe shall meet requirements of Table I for Class HE-III and special elliptical pipe shall meet requirements of Table I for Class HE-IV. Lifting holes will not be permitted in pipe. Joints for elliptical concrete pipe shall be designed in accordance with ASTM C443 and AASHTO M198 and provide a rubber gasketed watertight connection. For pipe sizes greater than 58" X 91" use same joint as arch pipe. An 18-inch wide Mirafi wrap shall be centered on each joint.
- D. Reinforced Concrete Pipe (Arch Pipe) - Arch concrete pipe shall meet the requirements of ASTM C 506, except exceptions and modifications to ASTM C 76, as specified in 941.1.3., FDOTSPEC shall apply where applicable to arch pipe. Lifting holes will not be permitted in pipe. Joints for arch concrete pipe - field joints for arch concrete pipe shall be made with a pre-formed plastic gasket material. Gasket material shall meet the requirements of Section 942-2, FDOTSPEC. Material shall be "Ram Nek" as manufactured by K.T. Snyder Co. or approved equal. An 18-inch wide Mirafi wrap shall be centered on each joint.

2.04 CORRUGATED POLYETHYLENE PIPE

- A. Corrugated polyethylene pipe shall meet the requirements of AASHTO M294 specification except size range shall be expanded through 36-inch diameter. Minimum pipe values shall be as follows:

DIAMETER	INTERIOR	PIPE STIFFNESS	N FACTOR
12"	Smooth	45 psi	.12
15"	Smooth	42 psi	.12
18"	Smooth	40 psi	.12
24"	Smooth	34 psi	.12
30"	Smooth	28 psi	.12
36"	Smooth	22 psi	.12

2.05 MORTAR, BRICK, AND REINFORCING BARS

- A. Mortar used for constructing and plastering manholes, catch basins, drop inlets and junction boxes shall meet the requirements of ASTM Specification Serial Designation C 270. CONTRACTOR shall use either a Portland cement-hydrated lime mixture cement or a Portland cement mixture with masonry cement added for

improved workability. However, the same materials must be used throughout the project. Mortar materials shall be proportioned by volume and shall be as follows:

One (1) part Type I Portland Cement - ASTM C-150

Three (3) parts Aggregate (sand) - ASTM C-144

Addition of masonry cement, ASTM C-91 will be permitted to improve workability of mortar.

- B. Brick used in construction of manholes, catch basins, drop inlets and junction boxes shall be Portland cement concrete meeting the requirements of ASTM Serial Designation C-55, Grade P II.
- C. All bars shall be deformed Reinforcing Steel and shall meet the requirements of Specifications for Billet-Steel Bars for Concrete Reinforcement (ASTM A-15), and to Specifications for Deformation on Deformed Steel Bars (ASTM A-305) for concrete reinforcement. All bars shall be lapped and placed in accordance with ACI Requirements and Specifications.

2.06 STRUCTURES

- A. Structures shall be precast or cast in place. Work specified in this section shall consist of furnishing all concrete, reinforcing steel, ties, forms, labor, materials, and placing of all embedded pipe sleeves, fixtures, joist anchors, etc., necessary to complete the work shown on the plans and specified herein, all in accordance with the Southern Building Code and the American Concrete Institute Building Code Requirements for Reinforced Concrete (ACI 318). All concrete shall develop 3,000 psi compressive strength in 28 days. Coarse aggregate shall be no smaller than 1/2-inch in diameter.

2.07 IRON CASTINGS

- A. Frames, covers and gratings shall be of the type and duty shown on the plans. Iron castings shall conform to ASTM A-48, Class 30, gray cast iron. All castings shall be true to pattern in form and dimension, free from faults or other defects. Bearing surfaces between cast frames, cover and grates shall be machined fitted together and match-marked to prevent rocking. All covers shall have a concealed type pick-hole (non-penetrating), and shall have the words "storm sewer" cast thereon.

2.08 CROSSING BOXES (CONFLICT BOXES)

- A. Conflict boxes shall be constructed at the location and depth indicated on the plans and in accordance with details shown.

PART 3 EXECUTION

3.01 GENERAL

- A. Pipe and structures shall be constructed at the location and elevations specified on the plans and in accordance with the details specified in the Contract Documents.

3.02 TRENCHING AND BACKFILLING

- A. Excavation, bedding, and backfilling of trenches during the construction of a storm drainage system shall comply with the requirements of Stantec Specifications Section 02703, TRENCHING AND BACKFILLING.

3.03 MATERIAL HANDLING

- A. Pipe and accessories shall be loaded and unloaded by lifting with hoists or skidding in a manner that will avoid shock or damage. Under no circumstances shall such materials be dropped. Pipe handled on skidways shall not be skidded or rolled against pipe already on the ground. In distributing material at the site of the work, each piece shall be off-loaded near the place where it is to be laid in the trench.

3.04 PIPE LAYING

- A. In general, corrugated metal pipe shall be installed in accordance with the Handbook for Steel Drainage and Highway Construction Products, published by the American Iron and Steel Institute. In general, concrete pipe shall be installed in accordance with the Concrete Pipe Installation Manual, published by the American Concrete Pipe Association.
- B. Laying of pipe in finished trenches shall be commenced at the lowest point, and shall progress up-grade. All pipe shall be carefully laid, true to the lines and grades given, with hubs up-grade and tongue end fully entered into the hub. When pipe with quadrant reinforcement, or circular pipe with elliptical reinforcement is used, pipe shall be installed in a position such that manufacturer's marks designating "top" and "bottom" of the pipe shall not be more than five degrees from the vertical plane through the longitudinal axis of the pipe. Any pipe that is not in true alignment or which shows any settlement after laying shall be taken up and re-laid without additional compensation. Pipe and joints shall be kept clean at all times.

3.05 SAND CEMENT RIP RAP

- A. Where the plans and specifications call for sand cement construction, bags shall be made of burlap. Paper bags will not be permitted.

3.06 PIPE END TREATMENTS

- A. Where storm drains connect to a lake, location of the headwall or end section shown on the plans shall be adjusted to fit the slope of the lake bank. Length of pipe at each end treatment shall be adjusted accordingly, and the quantity of pipe paid for shall be the actual length installed.
- B. If mitered ends are called for on the plans, mitered end section shall be constructed so that the top of the pipe end will match and intersect the designed slope of the lake bank, and the concrete collar slope shall conform to the mitered end detail.

- C. Storm drainage CONTRACTOR and lake excavation CONTRACTOR shall coordinate the location and installation of the headwall or mitered end section to be constructed at the lake bank. All "field adjustments" to end treatment location or elevation shall be approved by the ENGINEER of Record prior to construction.

3.07 JOINING ARCH CONCRETE PIPE

- A. Joint Design - CONTRACTOR shall furnish the ENGINEER with details in regard to configuration of the joint and the amount of gasket material required to affect a satisfactory seal. Joint surfaces which are to be in contact with the gasket material shall not be brushed or wiped with a cement slurry. Minor voids may be filled with cement slurry provided that all excess cement slurry is removed from the joint surface at the point of manufacture.
- B. Primer - Prior to application of gasket material, a primer of the type recommended by the manufacturer of the gasket material shall be applied to all joint surfaces which are to be in contact with the gasket material. The surface to be primed shall be thoroughly cleaned and dry when primer is applied.
- C. Application of Gasket - Prior to placing a section of pipe in the trench, gasket material shall be applied to form a continuous gasket around the entire circumference of the leading edge of the tongue. The paper wrapper on the exterior surface of the gasket materials shall be left in place until immediately prior to joining of sections. The gasket material shall be checked to assure it is bonded to the joint surface, immediately prior to placing a joint in the trench. Plastic gasket material shall be applied only to surfaces which are dry. A hand heating device shall be kept at the job site to dry joint surfaces immediately before application of the plastic gasket material. When the atmospheric temperature is below 60°F, plastic joint seal gaskets shall either be stored in an area warmed to above 70°F, or artificially warmed to this temperature in a manner satisfactory to the ENGINEER.
- D. Installation of Arch Concrete Pipe - Handling of a section of pipe after the gasket material has been affixed shall be carefully controlled to avoid displacement of gaskets or contamination of gasket material with dirt or other foreign material. Any gasket displaced or contaminated in handling of the pipe shall be removed and repositioned or replaced as directed. Pipe shall be installed in a dry trench. The bottom of the trench shall be carefully shaped so as to minimize the need for realignment of sections of pipe after they are placed in the trench. Care shall be taken to properly align each section of pipe to the gaskets coming into contact. Realignment of a joint after the gaskets come into contact tends to reduce the effectiveness of the seal and shall be held to a minimum. When pipes are joined, the entire joint shall be filled with gasket material and there shall be evidence of squeeze-out of gasket material for the entire internal and external circumference of the joint. Excess material on the interior of the pipe shall be trimmed to provide a smooth interior surface. After the pipe is in its final position, joint shall be carefully examined to determine the gasket material is satisfactorily adhering to all surfaces of the joint and the entire joint is filled with gasket material. If a joint is defective, the leading section of pipe shall be removed and the joint resealed.

- E. In addition to the required gasketed joint, a filter fabric jacket shall be included. The filter fabric jacket shall conform to FDOT Miscellaneous Drainage Detail Index No. 280 Sheet 1.

3.08 INSTALLATION OF CORRUGATED POLYETHYLENE PIPE

- A. Pipe shall be joined by split corrugated couplings at least seven corrugations wide and exceeding soil tightness requirements of the AASHTO Standard Specifications for Highway Bridges Section 23 (2.23.2). Unless otherwise specified by the ENGINEER, a mastic type gasket shall be utilized.
- B. Pipe and accessories shall be unloaded by using skidways, hoists or dropping on non-paved areas, in a manner that does not damage the pipe.
- C. Pipe shall be installed in accordance with ASTM 2321 specifications.

3.09 PLACING OF CONCRETE FOR STRUCTURES

- A. Concrete shall be deposited in clean wet form as nearly as practicable in its final position to avoid segregation. Concrete placing shall be carried on at such a rate that the concrete is, at all times, plastic and flows readily into the spaces between the bars. Concreting shall be a continuous operation until the panel or section is completed. Walls and slabs shall be poured monolithically unless shown otherwise on the plans. All structural concrete shall be mechanically vibrated.
- B. No concrete shall be allowed a free fall of more than four feet or allowed to strike against a vertical or inclined surface or reinforcement above point of deposit. Placing by means of pumping may be allowed, contingent upon the adequacy of the equipment for this particular work. The operation of the pump shall be such that a continuous stream of concrete without air pockets is produced.
- C. Placing of concrete shall be so regulated the pressure caused by wet concrete shall not exceed that used in the design of the forms. After the concrete has taken its initial set, care shall be exercised to avoid jarring the forms or placing any strain on the ends of projecting reinforcement.
- D. Joints between the junction box and manhole walls and incoming and out-going pipes shall be sealed with Portland Cement Mortar to form a watertight joint. All pipes in manholes or catch basins shall be sawed off flush with the inside face of the structure and sawed ends of these pipes shall be grouted with Portland Cement Mortar to a smooth uniform covering with no steel exposed.

3.10 FINAL INSPECTION OF STORM WATER SYSTEM

- A. Each sewer, upon completion, or at such time as the ENGINEER may direct, is to be cleaned and inspected. All repairs or alterations shown necessary by these inspections shall be made; all broken or cracked pipe removed; all excessive infiltration or exfiltration corrected; all deposits in pipe and manholes removed; and the sewer left clean, true to line and grade and ready for use. Each section of pipe from manhole to manhole is to show a full circle of light from either end. Each manhole shall be to the specified form and size, to the proper depth and watertight.

3.11 ADJUSTING EXISTING STRUCTURES

- A. Existing manholes, catch basins, inlets, conflict boxes, monument boxes, etc., within the limits of the proposed work, that do not conform to the finished grade of the proposed pavement, or to the finished grade designated on the plans for such structures, shall be cut down or extended, and made to conform to the grade of the new pavement, or to the designated grade of the structure if outside of the proposed pavement area. The materials and construction methods for this work shall conform to the requirements specified above. Where manholes are to be raised, the adjustment may, at the CONTRACTOR's option, be made by the use of adjustable extension rings of the type which do not require the removal of the existing manhole frame. The extension device shall provide positive locking action and shall permit adjustment in height as well as diameter. The particular type of device used shall be submitted to the ENGINEER for review.

3.12 RESTORATION

- A. Existing surfaces or property improvements damaged during the construction of work specified in this section shall be repaired in accordance with the requirements of Stantec Specifications Section 02705 RESTORATION AND GENERAL REQUIREMENTS.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. The quantities of storm sewer and pipe culvert to be paid for under this section shall be the lengths of the various types and sizes of pipe satisfactorily completed according to the Contract Documents. The pay quantity shall be in linear feet measured along the centerline of the pipe with no deductions for manholes, inlets, crossing boxes, or catch basins.

For pipe other than the main line where the pipe connects to a manhole, inlet, conflict box, or catch basin, the measurement of the pipe shall extend to the center of the applicable structure.

Where a pipe terminates with a headwall, endwall, mitered end or other end treatment, the measurement of the pipe shall extend to the end of the pipe. This method also applies where pipe connects to a control structure, weir, or cast in place structures.

- B. The quantities for manholes, inlets, conflict boxes, and mitered end sections paid for under this section shall be the number of the various types and sizes satisfactorily completed according to the Contract Documents.
- C. The quantities of existing structure adjustment to be paid for under this section shall be the number of existing manholes, inlets, conflict boxes or other similar structure satisfactorily adjusted, unless otherwise specified.

4.02 BASIS OF PAYMENT

- A. The quantities, determined by the methods described above, shall be paid for at the contract unit prices established for each pay item. Such payment shall constitute full compensation for all work specified in this section including all labor, materials, equipment, and other incidental costs required to construct the work defined in this section.
- B. Unless otherwise specified in the Contract Documents, restoration work shall not be paid for separately. The cost of any such restoration work shall be included in the various work items that necessitate the restoration.

END OF SECTION 02707

**SECTION 02708
SANITARY SEWER SYSTEMS**

PART 1 GENERAL

1.01 SCOPE

- A. The scope of this section is to cover materials and methods of performing work necessary for construction and placing in operation gravity sanitary sewers, lift stations and force mains shown on the plans and herein described and specified. Sanitary sewer systems covered under these specifications comprise lines, laterals, mains, trunk sewers, service wyes, fittings, manholes, pavement, sidewalk, curb repair, supports, sheeting and other work necessary to complete the system in full accordance with the plans and specifications.

1.02 SPECIFICATION AND STANDARDS REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc. are referenced, such references shall be the latest edition.
- B. Stantec Specifications Sections:
- 02703 TRENCHING AND BACKFILLING FOR PIPING
02705 RESTORATION AND GENERAL REQUIREMENTS

PART 2 PRODUCTS

2.01 MANHOLE CONSTRUCTION

- A. Precast Manholes
1. Base and first section of manhole barrel shall be an integral cast. Minimum base reinforcing shall be as detailed on the plans. Base slab shall have four equally spaced lifting lugs.
 2. Straight barrel sections shall be reinforced to meet the requirements of ASTM C 478. Minimum wall thickness shall be six inches or as shown on the plans.
 3. Joints shall be tongue-and-groove sealed with round or other flexible type natural rubber joint rings or by a flexible bitumastic sealing material equal to Ram-Nek as manufactured by R. K. Snyder and Co. In addition to the rubber ring gaskets, interior and exterior voids in pipe joints shall be sealed with a flexible plastic gasket installed in strict accordance with the manufacturer's printed instructions. Rubber joint rings and flexible plastic gasket shall be provided by the manhole manufacturer. All exterior joints shall be covered with EZ Wrap or approved equal.
 4. Cone section shall be precast concrete with all reinforcing steel and joints as specified for straight barrel sections.
 5. Concrete shall be Type II in all manholes.

6. Manhole base sections shall be set on a minimum of six inches of uniformly graded shell. Bedding shall extend one foot beyond the periphery of the base.
7. Drop connections shall be constructed as detailed on plans.
8. Prior to construction, if different from the approved plans, shop drawings of typical manhole and manhole connection shall be submitted by the CONTRACTOR to ENGINEER for review.
9. Cone section shall be eccentric type unless otherwise specified by the applicable code, utility standard or the ENGINEER.

B. Sewer Brick

1. Brick used in construction of manholes and manhole inverts shall be clay or shall be brick meeting the requirements of ASTM Specification, Serial Designation C 32, Grade MM.
2. Brick shall be sampled and tested in accordance with ASTM, Specification, Serial Designation C 67 and any subsequent revisions thereof.
3. Sewer brick shall have a nominal size of 2 1/4" x 3 5/8" x 8".

C. Mortar

1. Mortar for use in constructing and plastering manholes shall meet the requirements of ASTM C 270, Type MM. The addition of Masonry Cement - ASTM C 91, will be permitted to improve workability of mortar. Mortar materials shall be proportioned by volume and shall be as follows:

One part Type II Portland Cement - ASTM C 150

Three parts Aggregate (sand) - ASTM C 144

D. Manhole Channel Bottoms

1. Invert channel bottoms shall be smooth and semicircular in shape conforming to inside of adjacent sewer sections. Changes in direction of flow shall be made with a smooth curve of as large a radius as the size of manhole will permit. Changes in size and grade of channels shall be made gradually and evenly. Channel height shall match crown of exit connecting sewer. Floor of manhole outside channels shall be smooth and shall slope towards channels as shown on plans. Drop connections shall be constructed in accordance with details shown on plans. Channels shall be shaped and constructed to permit placement of a television inspection camera into the main.

E. Iron Castings

1. All castings for manhole covers and other purposes shall meet the requirements of ASTM, Designation A 48, Class 30 gray iron. Castings

shall be true to pattern in form and dimensions, free from pouring faults, spongings, cracks, blowholes and other defects.

2. Manhole frames and covers shall be U.S. Foundry and Manufacturing Corporation, or approved equal. The cover shall be solid, indented with words "sanitary sewer" cast thereon. Circular covers must fit the frames in any position. Contact surfaces of both frames and covers shall be machined and any tendency to rattle, as determined by test before or after installation, will be sufficient cause for rejection of the frame and cover.

F. Manhole Tops

1. All manhole tops shall be set flush in paved areas, and 0.2 feet above grade in unpaved areas, unless indicated otherwise on plans.

G. Drop-Pipe to Manholes

1. Drop-pipe to manholes shall be installed by the CONTRACTOR when the difference in invert elevations of intersecting sewers exceeds two feet, or where directed by ENGINEER. The difference in elevation shall be measured from the invert of the incoming pipe to the invert at the center of the manhole.
2. Drop-pipe structure shall be constructed according to plans and specifications.

H. Manhole Connections

1. Manhole connections of pipe shall be watertight. Pipe to manhole flexible connectors shall conform to ASTM C-923 as manufactured by KOR-N-SEAL or approved equal.

I. Concrete Surface Painting

1. Prepare all surfaces after concrete has cured by sandblasting, prime and paint per utility standard. All work shall be in accordance with manufacturers' recommendations. CONTRACTOR shall provide written confirmation from the painter that all surface preparation and painting was done in accordance with manufacturer's recommendations.

2.02 GRAVITY SEWER PIPE MATERIALS

A. Polyvinyl Chloride (PVC) Pipe and Fittings

1. Pipe and fittings for PVC gravity sewers shall be Polyvinyl Chloride meeting the requirements of ASTM D-3034, SDR 26 for pipes up to 15 inches in diameter, and ASTM Specification F679 for pipes over 15 inches in diameter. Elastomeric joint gaskets shall conform to ASTM F477. If separations cannot be obtained, use AWWA C-900, DR 14 PVC for the entire run from manhole to manhole.

2.03 FORCE MAIN MATERIALS

- A. All pipe shall be designed for a minimum working pressure of 100 psi unless otherwise specified.
- B. PVC Pipe, 12 inches and smaller, shall meet the requirements of AWWA C-900 Polyvinyl Chloride (PVC) Pressure Pipe 4-inch through 12-inch. C-900 PVC force main shall be Class 100, DR25, or as called for on the plans. PVC pipe larger than 12 inches shall conform to AWWA C-905, with pressure ratings required as above.
- C. Fittings shall be ductile iron, mechanical joint with a minimum rated working pressure of 350 psi and conform to AWWA C-110 or C153. Fittings shall be coated inside with a minimum 60 mils DFT of Polybond Plus or 40 mils DFT of Protecto 401, or approved equal. Where C-900 or C-905 PVC fittings are available and acceptable to the utility, they shall be utilized.
- D. Plug Valves 4-inch through 30-inch, shall be Pratt, Milliken or approved equal. Valves up to four inches shall provide 100 percent of pipe area, round port opening and a minimum of 80 percent for larger valves. Buried valves shall have mechanical joints and exposed valves shall be faced and drilled to ANSI 125 pound standard flange. Valves ten inches and larger shall be supplied with worm gear actuators. All size valves shall be equipped with two inch operating nuts, have an interior coating meeting AWWA C-550 requirements and be suited for services as indicated on the plans.

Buried valves shall be equipped with an extension box stem and tee wrench unless otherwise noted on the plans. Covers shall be marked "SEWER".

- E. Air release valves shall be as detailed on the construction plans.

PART 3 EXECUTION

3.01 GENERAL

- A. Pipe and structures shall be constructed at the locations elevations specified on the plans and in accordance the details specified in the Contract Documents.

3.02 MATERIAL HANDLING

- A. Pipe and accessories shall be loaded and unloaded by rolling with hoists or skidding in a manner that will avoid shock or damage. Under no circumstances shall such materials be dropped. Pipe handled on skidways shall not be skidded or rolled against pipe already on the ground. In distributing material at the site of the work, each piece shall be off-loaded near the place where it is to be laid in the trench.
- B. PVC pipe shall remain covered when exposed to the sun for four weeks or greater. Faded color and/or warped lengths shall be cause for rejection of the materials.

3.03 TRENCHING AND BACKFILLING

- A. Excavation, bedding, and backfilling of trenches during the construction of a sanitary sewer system shall comply with the requirements of Stantec Specifications Section 02703 TRENCHING AND BACK-FILLING for piping.

3.04 GRAVITY SEWER LINE INSTALLATION

A. Polyvinyl Chloride (PVC)

- 1. In general, PVC pipe shall be installed in accordance with ASTM D 2321 and "Chapter VI, Construction", of the Handbook of PVC Pipe, Design and Construction, published by Uni-Bell Plastic Pipe Association, and in accordance with the pipe manufacturer's recommendations and installation guide. The spigot end reference mark shall be aligned with the bell end in accordance with the manufacturer's recommendations.

B. Gasket Joint Lubrication

- 1. CONTRACTOR shall only use pipe joint lubricants supplied by or recommended by the pipe manufacturer. The lubricant shall be water-soluble, non-toxic, an inhibitor to bacterial growth, and shall be non-detrimental to the elastomeric seal and pipe. Mineral oil, petroleum jelly, hydrogenated vegetable fat (i.e. Crisco(r), cooking oil, grease, etc.) shall not be used.

C. Laying of Pipe

- 1. Pipe shall be laid in accordance with the specifications and in accordance with manufacturer's recommendations. Proper tools and equipment shall be used for placement of the pipe in the trench. Under no circumstances shall pipe or accessories be dropped.
- 2. Pipe bells shall be laid on the upstream end. Pipe laying shall commence at the lowest elevation and shall proceed up grade. Whenever pipe laying is interrupted, the open ends of the pipe shall be closed to prevent entrance of trench water, mud, and foreign matter.
- 3. Gravity sewers shall be laid to the exact line and grade called for on the plans.
- 4. Minimum three-inch wide metallic warning/location tape shall be laid 18 inches above the pipe in accordance with the utilities requirements.

D. Branch Fittings

- 1. Fittings for service branches on new construction shall be factory molded with all gasketed "O" ring type connections. Taps or fittings made to existing lines shall be made with a factory fabricated tapping saddle or by use of a factory gasketed fitting in conjunction with a repair sleeve coupling with all stainless steel clamps.

2. Saddles shall be installed in accordance with the manufacturer's specifications. Holes for saddle connections shall be made by a hole cutter or keyhole type saw based on layout by a template. Holes shall be made to the exact manufacturer's dimension and shall be de-burred and beveled.

E. Sewer Services

1. CONTRACTOR shall install type of sewer service shown on the plans.
2. Services shall be six-inch and shall consist of wye, 45° bend(s), cleanouts and sufficient six-inch pipe to reach the property line or as shown on the plans. Laterals, wherever possible, shall be laid on a uniform grade from the street sewer to a point 3 feet below the proposed grade of the property line or to the flow line called for on the plans. Tunneling under curbs, curbs and gutters or sidewalks will not be permitted. Services shall be plugged at the point of termination with a factory plug. In locations where a minimum of 36-inch cover cannot be provided, or separation from potable water mains is not possible, laterals shall be AWWA C-900 DR 14 PVC.

F. Record Data

1. CONTRACTOR shall accurately measure and record the location of all wyes and service connections, recording both the location (or "plus") and distance from the next downstream manhole and the elevation of the invert of the wye or termination of the service connection at the curb line.
2. CONTRACTOR shall accurately measure line lengths, swing ties and manhole rim and invert elevations and present this data to the ENGINEER prior to partial or final payment.
3. Records shall be available for inspection of and verification by the ENGINEER throughout the project and shall be given to the ENGINEER in a neat, organized and legible form at the conclusion of the project for delivery to the OWNER. The cost of this record drawing preparation shall be incidental to construction, and shall be borne by the CONTRACTOR.

G. Gravity Sewer Line Tests - General

1. Unless otherwise specified herein, the expense of all required tests shall be borne by the CONTRACTOR and shall be included in the unit cost bids.
2. All leaks evident shall be traced, uncovered and repaired regardless of the total leakage as indicated by the test, and all pipes and fittings and other materials found defective under the test shall be removed and replaced at the CONTRACTOR's expense. Tests shall be repeated until leakage has been reduced below the allowable amount and approved by the ENGINEER.
3. All tests required by the OWNER or applicable regulatory agency shall be performed in addition to or in accordance with the tests specified herein.

4. All manhole, service and piping construction must be completed prior to commencement of testing. Sewer lines shall be flushed and be free of debris, sand, etc.
5. All testing shall be done under the observation of the Engineer of Record or their duly authorized representative, applicable regulatory agency and the utility.
6. Testing shall be performed in the following sequence: deflection test, air test, television test. If any tests fail, the lines shall be repaired at the CONTRACTOR's expense. Upon the completion of the repairs, the preceding sequence of testing shall be repeated.
7. If any sewer line for any length hold more than one-inch or 12.5 percent of the inside diameter of water in the pipe, the section of pipe shall be corrected at the CONTRACTOR's expense.
8. Deflection Testing - Allowable deflection (reduction in the vertical inside diameter) in PVC gravity sewer pipe shall be five percent. The CONTRACTOR shall test the lines laid for deflection with a suitable gauge, mandrel or meter as approved by the ENGINEER. CONTRACTOR shall deflection test the entire sewer system. All locations with excessive deflection shall be excavated and be repaired by rebedding or replacement of the pipe.
 - a. Ductile iron pipe shall be exempt from deflection tests but shall be visually tested by lamping.
 - b. Deflection tests shall occur a minimum of 30 days after sewer installation, backfill and compaction has been completed.
 - c. The gauge shall be pulled independent of the video camera.
9. Low Pressure Air Testing
 - a. Low pressure air testing shall be required. Testing shall be performed on individual sections of pipe between manholes. Testing shall be performed in accordance with Unibell B-6-85.
 - b. All pneumatic plugs shall be seal tested before being used in the actual test installation. One length of pipe shall be laid on the ground and sealed at both ends with the pneumatic plugs to be checked. Air shall be introduced into the plugs to the manufacturer's recommended inflation pressure. The sealed pipe shall be pressurized to 5 psig. The plugs shall hold against this pressure without bracing or movement of the plugs out of the pipe.
 - c. After a manhole to manhole reach of pipe has been cleaned, and the pneumatic plugs are checked by the above procedure, the plugs shall be placed in the line at each manhole and inflated to manufacturer's recommended inflation pressure. Low-pressure air shall be introduced into this sealed line until the internal air pressure reaches 4 psig greater than the average back pressure of any

ground water that may be over the pipe. At least two minutes shall be allowed for the air pressure to stabilize. After the stabilization period (3.5 psig minimum pressure in the pipe), the air hose from the control panel to the air supply shall be disconnected.

- d. The portion of line being tested shall be termed "Acceptable" if the allocated line pressure decreased from less than 1 psi (greater than the average back pressure of any ground water that may be over the pipe) in the time shown for the given diameters in the following table:

<u>PIPE DIAMETER IN INCHES</u>	<u>MINUTES PER 100 FEET</u>
4	0.3
6	0.7
8	1.2
10	1.5
12	1.8
15	2.1
18	2.4
21	3.0
24	3.6

- e. In areas where ground water is known to exist, the height in feet shall be divided by 2.35 to establish the pounds of pressure that will be added to all readings. (For example, if the height of water is 11½ feet, then the added pressure will be 5 psig. This increased the 3.5 psig to 8.5 psig, and the 2.5 psig to 7.5 psig. The allowable drop of one pound and the timing remain the same.)
- f. If the installation fails to meet this requirement, the CONTRACTOR shall, at his own expense, determine the source of leakage. The CONTRACTOR shall then repair or replace all defective materials and/or workmanship.

10. Television Inspection

- a. After completing backfill and at a time to be selected by the ENGINEER the sewer lines shall be inspected by video inspection camera.
- b. The CONTRACTOR shall allow the ENGINEER or utility the opportunity to lamp the sewer lines prior to video inspection and shall assist the ENGINEER or utility in the lamping procedure.
- c. Immediately prior to televising of the line, the CONTRACTOR shall add water to the upstream manhole. The amount of water shall be sufficient to be seen in the downstream manhole.
- d. The television camera shall be pulled in an upstream direction only.

- e. A marker one-inch in thickness or diameter shall be attached to the camera cable and shall be visible at all times while pulling the video camera. The video technician during the pipeline video inspection, shall indicate vocally and enter in the log each location when the marker is even with or below the water level in the pipe.
- f. Record tapes, log and report of the final inspection shall be submitted to the ENGINEER. These tapes shall be in VHS format, shall be color tape with continuous voice track and footage counter.
- g. The videotape shall display data including the date, time, footage from manhole and location of main. The log and report shall contain the following information:
 - (1) Date and time of inspection
 - (2) Name of project
 - (3) Location of manhole run, street, right-of-way, etc.
 - (4) Length of line
 - (5) Size and type of pipe
 - (6) Personnel witnessing inspection
 - (7) Cleanliness and general condition of pipe
 - (8) Notes on standing water, dips and sags in pipe
 - (9) Location and position of services
 - (10) Pipe damage and character, type and location of such damage
 - (11) Infiltration points location from manhole, location on periphery of the pipe, estimated amount of infiltration in gallons per minute (GPM) and a description of the infiltration point (i.e. joint, break, hole, etc.)

11. Infiltration/Exfiltration Tests

- a. Tests for gravity line water tightness shall be made by the CONTRACTOR in the presence of the ENGINEER. The sewer and connections shall not leak at a rate in excess of 100 U.S. gallons per inch of pipe diameter per mile per 24 hours, conforming to the UNIBELL Standard Specification B-5.
- b. Under dry soil conditions, measurement by exfiltration shall be made on gravity lines by bulkheading the sewer at the end of the lower grade partially filling the manhole with water at upper end and computing the volume of leakage from the extent of the diminished volume of water in the manhole during the period of test. The sewer and connections shall not leak at a rate in excess of 100 U.S. gallons per inch of pipe diameter per mile per 24 hours, conforming to UNIBELL Standard Specification B-5.
- c. Under wet soil conditions, measurement of the infiltration shall be made on gravity lines before sewage flows are allowed in the sewer and shall be made by measuring the volume direct by means of a calibrated V-notch weir furnished by the CONTRACTOR.

- d. The infiltration or exfiltration shall be done at the option of the ENGINEER, OWNER or utility company. The CONTRACTOR shall provide all equipment necessary to complete these tests.

12. Adjusting Existing Structures

- a. Existing manholes, within the limits of the proposed work, that do not conform to the finished grade of the proposed pavement, or to the finished grade designed on the plans for such structures, shall be cut down or extended, and made to conform to the grade of the new pavement, or to the designated grade of the structure if outside of the proposed pavement area. The materials and construction methods for this work shall conform to the requirements specified above.

Where manholes are to be raised, the adjustment may, at the CONTRACTOR's option, be made by the use of adjustable extension rings of the type which shall provide positive locking action and shall permit adjustment in height, surface bevel to match paved surfaces, as well as diameter. The particular type of device used shall meet the approval of the ENGINEER and utility.

13. Clean Outs

- a. Clean outs shall be constructed according to the details and at locations shown on the plans.

14. Locator Disks

- a. Locator disks shall be the type that is compatible with the Utilities' location equipment and approved by the utilities' representative prior to installation. They shall be placed in locations specified in the plans or as otherwise specified in the Contract Documents.

15. Restoration

- a. Existing surfaces or property improvements damaged during the construction of work specified in this section shall be repaired in accordance with the requirements of Stantec Specifications Section 02705 RESTORATION AND GENERAL REQUIREMENTS.

3.05 FORCE MAIN INSTALLATION

- A. PVC pipe shall be installed in accordance with ASTM D 2321, Unibell Handbook of PVC Pipe, Design and Construction. PVC pipe spigot ends shall be installed into the bell ends so the manufacturer's spigot end reference mark is even with the outside edge of the bell. Field cut pipe shall be remarked with a spigot end reference mark in accordance with the pipe manufacturer's specifications, or by remarking from a factory marked end of the same pipe diameter.

B. Any blow-offs, or air relief ports, called for on the plans shall be made by means of a double strap tapping saddle or by use of a ductile iron tee and fittings.

C. Pipe Laying

1. Pipe lines shall be laid and maintained to required lines and grades with fittings and valves at required locations, spigots centered in bells, and all valve stems plumb.
2. Pipe and fittings shall be inspected for defects and all lumps, blisters and excess coal-tar coating removed from the bell and spigot ends of each length of pipe. Outside of the spigot and inside of the bell of all pipe shall be wiped clean and dry before pipe is laid.
3. Every precaution shall be taken to prevent foreign material from entering the pipe while being placed. ENGINEER may require that before lowering the pipe into the trench, a heavy, tightly woven canvas bag of suitable size be placed over each end and left there until the connection is made to preceding pipe. During laying operations no debris, tools, clothing or other material shall be placed in the pipe.
4. After placing a length of pipe in the trench, the spigot end shall be centered in the bell and the pipe forced home and brought to correct line and grade. Pipe shall be secured in place with approved backfill material tamped under it except at the bells. Pipe and fittings which do not allow a sufficient and uniform space for joints shall be removed and replaced with pipe and fittings of proper dimensions to insure such uniform space. Manufacturer's recommendations as to limits of deflection of joints shall be strictly adhered to.
5. At times when pipe laying is not in progress, the open ends of pipe shall be closed by a watertight plug or other means approved by the ENGINEER. Joints of pipe in the trench which cannot be completed shall be caulked with packing to make them as watertight as possible. This provision shall apply during the noon hour as well as overnight. If water is in the trench, seal shall remain in place until the trench is pumped completely dry.
6. Cutting of pipe for inserting valves, fittings or closure pieces shall be done without damage to the pipe or lining, and so as to leave a smooth end at right angles to the axis of the pipe. All pipe shall be cut in accordance with the pipe manufacturer's specifications and recommendations.

D. Jointing

1. Mechanical Joint - All mechanical joints shall be made up in strict accordance with the manufacturer's specifications using such special tools as stipulated by him. Gaskets shall be evenly seated, the gland placed in position, and bolts hand tightened before final tightening with wrenches.
2. Compression - Pipe utilizing rubber gasket compression type joints shall be coupled in strict accordance with the printed instructions furnished by pipe manufacturer.

3. PVC Polyvinyl Chloride Pipe - PVC pipe shall be coupled in strict accordance with the printed instructions of the pipe manufacturer.
- E. Cover
1. In general, cover on all pressure pipes shall be 36 inches minimum.
- F. Anchoring
1. All plugs, caps, tees, valves, and bends deflecting 11-1/4° or more and connecting mains shall be provided with restrained joints, or movements shall be prevented by means of thrust blocking, metal rods or clamps as shown or specified. System design to be based upon a 100 psi working pressure times a safety factor of 2.0. See restrained joint tables on the plans for lengthening required.
- G. Transition Details
1. At locations of interconnections, bypasses, manifolds, pipe size changes or other transitions requiring numerous fittings and adapters, ENGINEER may require the CONTRACTOR to submit for approval, detailed shop drawings of the respective transition prior to construction. Where detailed drawings at such transitions are included on the plans, CONTRACTOR may submit for approval detailed plans of alternate design. In any case, prior to construction of a transition, CONTRACTOR shall inform ENGINEER of the proposed design, including number and type of fittings, for approval.
- H. Valve Installation
1. Before installation, valves shall be thoroughly cleaned of all foreign material, and inspected for proper operation. Valves shall be installed so stems are vertical, unless otherwise directed by the ENGINEER. Jointing shall meet the requirements of AWWA C-600. Joints shall be tested with adjacent pipeline. If joints leak under test, valves shall be disconnected and reconnected, and pipeline retested.
 2. Faces of flanges shall be cleaned thoroughly before flanged joint is assembled. After cleaning, the gasket shall be inserted and the nuts tightened uniformly around the flange. If flanges leak under test, the nuts shall be loosened, the gasket reset or replaced, the nuts re-tightened, and the valve and pipeline retested.
- I. Valve Box Installation
1. Center valve boxes and set plumb over the valve. Set valve boxes so they do not transmit shock or stress to the valves. Set valve box covers to finished grade or as shown. Cut extensions to the proper length so valve box does not ride on the extension when set at grade.

2. Backfill shall be the same as specified for the adjacent pipe. Place backfill around the valve boxes and thoroughly compact to a density equal to that specified for the adjacent trench and in such a manner that will not damage or displace the valve box from proper alignment or grade.

J. Force Main Testing

1. Hydrostatic Tests - CONTRACTOR shall backfill all newly laid pipe, or valved section thereof, between joints before conducting a hydrostatic test. After the force main has been laid and backfilled between joints, it shall be pumped to a pressure of 80 psi or twice the maximum operating pressure (whichever is highest) and all visible leaks stopped by approved methods. A leakage test shall then be conducted at the above pressure. No installation will be acceptable by the agency having jurisdiction until the leakage is less than the number of gallons per hour as determined by the formula below

$$L = \frac{S D (P)^5}{133,200}$$

in which L equals the allowable leakage in gallons per hours; S is length of pipe tested in feet; D is the nominal diameter of the pipe in inches; and P is the average test pressure during the leakage test, in pounds per square inch gauge. Test shall be applied for two hours. Water supplied to the main during the test to maintain the required pressure shall be measured by a 5/8 inch meter installed on the discharge side of the test pump, or by pumping from a calibrated container, all in accordance with AWWA C-600.

K. Flushing

1. Before final tie-in to the "Live" main the force main shall be flushed to remove all foreign matter. Provide hoses, temporary pipes, valves, and pumps, ditches, etc. as required to provide and dispose of flushing water without damage to adjacent properties. Flushing velocity shall be at least 2.5 fps. For large diameter pipe where it may be impractical or impossible to flush the pipe at 2.5 fps velocity, clean the pipeline by means of "pigging" at a lower velocity.

L. Continuous Service Connections (Hot Taps)

1. Hot taps of existing in-service pressure mains shall be made where called for in the plans. Hot taps shall be constructed in accordance with requirements of the agency having jurisdiction over the utility system.

M. Adjusting Existing Structures

1. Existing valve boxes or other similar items within the limits of the proposed work, that do not conform to the finished grade of the proposed pavement, or to the finished grade designated on the plans, shall be cut down or extended and made to conform to the grade of the new pavement or to the

designated grade of the surface if outside of the proposed pavement area. The materials and construction methods for this work shall conform to the requirements specified above.

N. Restoration

1. Existing surfaces or property improvements damaged during the construction of work specified in this section shall be repaired in accordance with the requirements of Stantec Specifications Section 02705, RESTORATION AND REQUIREMENTS.

PART 4 **MEASUREMENT AND PAYMENT**

4.01 **METHOD OF MEASUREMENT**

- A. The quantities of sanitary sewer to be paid for under this section shall be the lengths of the various types and sizes of pipe satisfactorily completed according to the Contract Documents. The pay quantity shall be in linear feet measured horizontally along the centerline of the pipe with no deductions for manholes or fittings.

Where the pay item description for pipe specifies a depth of cut, the depth shall be determined by measuring the vertical distance from the existing surface to the invert of the pipe as shown on the plans.

- B. The quantities for manholes to be paid for under this section shall be the number of the various types and sizes satisfactorily completed according to the Contract Documents.

Where the pay item description for a manhole specifies a depth, the depth shall be measured from the top of the frame and cover to the lowest invert elevation of the manhole as shown on the plans.

- C. The quantity of sewer services to be paid under this section shall be either by the linear foot or by each service. If by linear foot, the pay quantity shall be the length of pipe satisfactorily completed measured horizontally along its centerline from the hub of the wye to the right-of-way or pipe end as shown on the plans. If by each, the pay quantity shall be the number of sewer services satisfactorily completed according to the Contract Documents.

- D. The quantities of existing structure adjustment to be paid for under this section shall be the number of existing manholes satisfactorily adjusted, unless otherwise specified.

- E. The quantities of locator disks, clean outs and valves shall be the number of disks, clean outs or valves satisfactorily installed according to the Contract Documents unless otherwise specified.

4.02 BASIS OF PAYMENT

- A. The quantities determined by the methods described above, shall be paid for at the contract unit prices established for each pay item. Such payment shall constitute full compensation for all work specified in this section including all labor, materials, equipment, and other incidental costs required to construct the work defined in this section.
- B. Payment for drop manholes shall include the cost for the drop piping in addition to all other costs involved in a regular manhole.
- C. Payment for sewer services by the linear foot shall include the cost of the fitting which connects the service to the sewer main.

Payment for sewer services by each shall include the cost of the connecting fitting, the length of pipe specified, clean out, cap, and any incidental costs required to install the sewer service according to the Contract Documents.
- D. Clean outs shall be paid as a separate pay item when the sewer services are paid by the linear foot. Such payment shall include the cost of all component parts as specified in the plan details.
- E. Pipe fittings shall not be paid for separately but shall be included in the cost of pipe unless otherwise specified in the Contract Documents.
- F. Unless otherwise specified in the Contract Documents, restoration work shall not be paid for separately. The cost of any such restoration work shall be included in the various work items that necessitate the restoration.
- G. The cost of television inspection and other testing as specified in this section shall be included in the contract unit price for sanitary sewer pipe and no additional payment will be allowed unless a separate pay item is established in the Contract Documents.

END OF SECTION 02708

**SECTION 02710
RECLAIMED WATER MAINS (REUSE)**

PART 1 GENERAL

1.01 SCOPE

- A. The scope of this section covers materials and work necessary for construction, connection, and placing into operation the reclaimed water main (reuse) system shown on the plans and herein described and specified.

1.02 SPECIFICATION AND STANDARD REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc., are referenced, such references shall be the latest edition.
- B. Stantec Specifications Sections:

02703 TRENCHING AND BACKFILLING FOR PIPING
02705 RESTORATION AND GENERAL REQUIREMENTS

PART 2 PRODUCTS

2.01 MATERIALS

- A. All pipe shall be designed for a minimum working pressure of 150 psi unless otherwise specified.
- B. Ductile Iron Pipe - Pipe shall meet the requirements of AWWA C-151. Minimum thickness class shall be Class 51 or as specified for buried piping and Class 53 for exposed piping. Pipe shall be cement lined and interior seal coated in accordance with AWWA C-104. Pipe exterior shall be coated with bituminous coating for buried piping.
- C. Polyethylene Encasement - Ductile iron pipe shall be polyethylene encased unless otherwise stated on the plans or in the specifications. Polyethylene encasement shall meet the requirements of AWWA C-105 and shall be the color purple.
- D. Polyvinyl Chloride Pipe (PVC) – PVC 4-inch through 12-inch diameter shall meet requirements of AWWA C-900. Minimum thickness class shall be Class 150 (DR 18) unless otherwise shown on the plans or in the specifications. Pipe bell shall be monolithic and integral to pipe barrel. Pipe color shall be purple.
- E. Polyvinyl Chloride Pipe (PVC) – PVC 14-inch through 36-inch diameter shall meet the requirements of AWWA C-905 minimum thickness class shall be DR 25, rated for 150 psi pressure class, unless otherwise shown on the plans or in the specifications. Pipe shall be monolithic and integral to pipe barrel.
- F. Fittings and Joints
 - 1. Fittings for ductile iron pipe: Pipe fittings for ductile iron buried pipe shall be ductile iron, mechanical joint with retainer glands. Fittings shall have a

minimum rated working pressure of 350 psi, and conform to AWWA C-110 or C-153. Fittings shall be cement lined, interior seal coated, and exterior bituminous coated in accordance with AWWA C-104.

2. Pipe joints: Buried pipe joints shall be push-on type meeting the requirements of AWWA C-111 except where specifically shown or detailed otherwise.
3. Restrained joints: Restrained joints, where required, shall be American Fastite Joint with Fast Grip Gasket, or approved equal.
4. Flanged pipe: Flanged ductile iron pipe shall meet the requirements of AWWA C-115. Gaskets shall be American Toruseal full-face or approved equal.
5. Fittings for polyvinyl chloride (PVC) water mains: Pipe fittings for PVC pipe shall be ductile iron and shall have a minimum rated working pressure of 350 psi. Fittings shall be mechanical joint and shall meet the requirements of AWWA C-110 or C-153. Fittings shall be cement lined, interior seal coated, and exterior bituminous coated in accordance with AWWA C-104. Where C-900 PVC fittings are acceptable to the utility, they shall be utilized.

G. Gasket Joint Lubrication

1. CONTRACTOR shall only use pipe joint lubricant supplied by or recommended by the pipe manufacturer. Lubricant shall be water-soluble, non-toxic, an inhibitor to bacterial growth, and shall be non-detrimental to the elastomeric seal and pipe. Mineral oil, petroleum jelly, hydrogenated vegetable fat (i.e. Crisco (RR), petroleum products, cooking oil, grease, etc.) shall not be used.

H. Valves - Buried

1. Gate Valves: Three Inch Through Twelve Inch:
 - a. In general, gate valves three inches in size and larger shall be cast iron body, cast iron gate, and disc with rubber coating, resilient sealing mechanism, non-rising stem, open left (counter clockwise) with two inch square operating nuts. They shall meet the requirements of AWWA C-509 and C-550, and shall bear name of manufacturer and water rating cast into valve body in raised letters.
2. Gate Valves - Less than Three Inch:
 - a. Gate valves under three inches in size shall be as in above or shall be 125 pounds, Bronze Gate Valves conforming to M.S.S. Standard Practice SP-37. They shall be double-disc, non-rising stem, open left (counter clockwise) with operating wheel. Pewter and pot metal operating wheels will not be permitted. Valves shall be of United States manufacture.

3. Butterfly Valves - Greater Than Twelve Inch:
 - a. Buried service butterfly valves shall be of the rubber seat type, with enclosed geared operators and integrally cast mechanical joint ends, all in accordance with AWWA C-504, Class 150-B. Valves shall have cast iron body, ductile iron valve disc, Type 304 stainless steel valve shaft, and self-lubricating nylon sleeve type shaft bearings. Valve seats shall be Buna-N, in the body or on disc.
 - b. Operators shall be fully gasketed and oil filled to withstand an external water pressure of 10 psi minimum. A valve position indicator shall be furnished for installation in each valve box. Indicator shall be hermetically sealed for installation inside a cast iron valve box and shall show valve disc position, direction of rotation and number of turns from fully opened to fully closed. Indicator shall be provided by the valve manufacturer, complete. Valves shall be Henry Pratt Company "Groundhog," Crane "Monarch" with ground level position indicator, or approved equal.
4. Valve Boxes
 - a. Valve boxes shall be telescoping type, cast iron with 5-1/4 inch shaft. The word REUSE shall be cast into the top of the lid. Extension pieces, if required, shall be manufacturer's standard type for use with valve box.
5. Extension Stems For Valve Operators
 - a. Where depth of the operating nut is more than three feet, operating extension shall be provided to bring the operating nut to a point 18 inches below the surface of the ground or pavement. Extension stem shall be constructed of stainless steel.
6. Valve Coating
 - a. Valves shall have a factory applied epoxy lining and exterior coating meeting the requirements of AWWA C-550.
- I. Air and Vacuum Release Valve Assemblies
 1. General - Air valve assembly shall include all work necessary, including tapping main pipeline, installing service saddle, piping, valves, cabinet, slab, manhole and any incidental excavation and backfill as may be required to install the valve, complete as detailed on the plans.
- J. Continuous Service Connections (Hot Taps)
 1. Continuous service connections (Hot Taps) of existing in-service pressure mains shall be made where called for on the plans. Hot taps shall be performed in accordance with requirements of the agency having jurisdiction over the utility system.

2. Valve shall meet all requirements of gate valves. Tapping sleeve shall be stainless steel or ductile iron.
 3. Prior to cutting, the installed tapping sleeve and tapping valve shall be pressure tested at 150 psi in accordance with the pressure testing section of these specifications. Following the accepted pressure test, the CONTRACTOR shall obtain the utility agency's approval prior to cutting the in service main.
 4. Cutting of existing main shall be made with a tapping machine in excellent operating condition as approved by the utility agency and the ENGINEER.
- K. Metalicized identification tape shall be buried approximately 12 inches above PVC pipe. Non-metalicized tape shall be buried approximately 12 inches above ductile iron pipe. Tape width shall be three-inch minimum. Tape colors and imprints shall be as follows:

<u>Imprint</u>	<u>Color</u>
1) Caution – Reclaimed Water Main	Purple

PART 3 EXECUTION

3.01 MATERIAL HANDLING

- A. Pipe and accessories shall be loaded and unloaded by lifting with hoists or skidding in a manner that will avoid shock or damage. Under no circumstances shall such materials be dropped. Pipe handled on skidways shall not be skidded or rolled against pipe already on the ground. In distributing material at the site of the work, each piece shall be off-loaded near the place where it is to be laid in the trench.
- B. Pipe shall be handled so coating and lining will not be damaged. If, however, any part of the coating or lining is damaged, repair shall be made by CONTRACTOR according to recommendations of the manufacturer and satisfactory to ENGINEER.
- C. PVC pipe shall remain covered when exposed to the sun for four weeks or more. Faded color and/or warped lengths shall be cause for rejection of the materials.

3.02 TRENCHING AND BACKFILLING

- A. Excavation, bedding, and backfilling of trenches during the construction of water lines shall comply with the requirements of Stantec Specifications Section 02703, TRENCHING AND BACKFILLING FOR PIPING.

3.03 INSTALLATION

- A. General
 1. All construction shall be performed in strict accordance with the

manufacturer's recommendations. No sand or foreign material shall be allowed to enter the pipe. Ends shall be suitably plugged when pipe laying is not in progress.

2. Only one connection to the existing distribution system will be allowed until after lines have been tested and sterilized in accordance with specifications. All tie-ins will be accomplished under field inspection of a representative of the OWNER of the utility to which connection is being made.
3. Ductile iron pipe shall be installed in accordance with pipe manufacturer's recommendations, in accordance with AWWA C-600. Unless otherwise specified, ductile iron pipe shall be installed per laying condition Type 2, AWWA C-600.
4. PVC pressure pipe and appurtenances shall be installed in accordance with the special requirements of the pipe manufacturer. In addition, the pipe installation shall follow The Uni-Bell Pipe Association, Handbook of PVC Pipe Design and Construction, AWWA, and the governing utility agency requirements as applicable.
5. PVC pipe spigot ends shall be installed into bell ends so manufacturer's spigot end reference mark is even with the outside edge of the bell. Field cut pipe shall be remarked with a spigot end reference mark in accordance with pipe manufacturer's specifications, or by remarking from a factory marked end of the same pipe diameter.
6. Any service connections, blow-offs, or air relief ports called for on the plans shall be made by means of a double strap tapping saddle or by use of a ductile iron tee and fittings.

B. Pipe Laying

1. Pipe lines shall be laid and maintained to required lines and grades with fittings and valves at required locations, spigots centered in bells, and all valve stems plumb.
2. Pipe and fittings shall be inspected for defects and all lumps, blisters and excess coal-tar coating removed from the bell and spigot end of each length of pipe. Outside of the spigot and inside of the bell of all pipe shall be wiped clean and dry before pipe is laid.
3. Every precaution shall be taken to prevent foreign material from entering the pipe while being placed. ENGINEER may require that before lowering the pipe into the trench, a heavy, tightly woven canvas bag of suitable size shall be placed over each end and left there until the connection is made to preceding pipe. During laying operations no debris, tools, clothing or other material shall be placed in the pipe.

4. After placing a length of pipe in the trench, the spigot end shall be centered in the bell and the pipe forced home and brought to correct line and grade. Pipe shall be secured in place with approved backfill material tamped under it except at the bells. Pipe and fittings which do not allow a sufficient and uniform space for joints shall be removed and replaced with pipe and fittings of proper dimensions to insure such uniform space. Manufacturer's recommendations as to limits of deflection of joints shall be strictly adhered to.
5. At time when pipe laying is not in progress, the open ends of pipe shall be closed by a watertight plug or other means approved by the ENGINEER. Joints of pipe in the trench which cannot be completed shall be caulked with packing to make them as watertight as possible. This provision shall apply during the noon hour as well as overnight. If water is in the trench, seal shall remain in place until the trench is pumped completely dry.
6. Cutting of pipe for inserting valves, fittings or closure pieces shall be done without damage to the pipe or lining, and so as to leave a smooth end at right angles to the axis of the pipe. All pipe shall be cut in accordance with the pipe manufacturer's specifications and recommendations.

C. Jointing

1. Mechanical joint pipe - All mechanical joints shall be made up in strict accordance with the manufacturer's specifications using such special tools as stipulated by them. Gaskets shall be evenly seated, the gland placed in position, and bolts hand tightened before final tightening with wrenches.
2. Compression - Pipe utilizing rubber gasket compression type joints shall be coupled in accordance with the printed instructions furnished by the pipe manufacturer.
3. PVC polyvinyl chloride pipe - PVC pipe shall be coupled in strict accordance with the printed instruction of the pipe manufacturer.

D. Cover

1. In general, cover on all pressure pipes shall be 36 inches minimum or as shown on the construction plans. Grade of sanitary sewer service laterals shall be considered in field determination of pipe cover.

E. Anchoring

1. All plugs, caps, tees, valves, and bends deflecting $11\frac{1}{4}^{\circ}$ or more and connecting mains shall be provided with restrained joints, or movement shall be prevented by means of thrust blocking, metal rods or clamps as shown or specified. System design to be based upon 150 psi working pressure times a safety factor of 2.0. See restrained joint tables on the plans for lengths required.

F. Transition Details

1. At locations of interconnections, bypasses, manifolds, pipe size changes or other transitions requiring numerous fittings and adapters, ENGINEER may require the CONTRACTOR to submit for approval detailed shop drawings of the respective transition prior to construction. Where detailed drawings at such transitions are included on the plans, CONTRACTOR may submit for approval detailed plans of alternate design. In any case, prior to construction of a transition, CONTRACTOR shall inform ENGINEER of the proposed design, including number of type of fittings, for approval.

G. Valve Installation

1. Before installation, valves shall be thoroughly cleaned of all foreign material and inspected for proper operation. Valves shall be installed so stems are vertical, unless otherwise directed by the ENGINEER. Jointing shall meet the requirements of AWWA C-600. Joints shall be tested with adjacent pipeline. If joints leak under test, valves shall be disconnected and reconnected, and pipeline retested.
2. Faces of flanges shall be cleaned thoroughly before flanged joint is assembled. After cleaning, the gasket shall be inserted and the nuts tightened uniformly around the flange. If flanges leak under test, the nuts shall be loosened, the gasket reset or replaced, the nuts re-tightened, and the valve and pipeline retested.

H. Valve Box Installation

1. Center valve boxes and set plumb over the valve. Set valve boxes so they do not transmit shock or stress to the valves. Set valve box covers to finished grade or as shown. Cut extensions to the proper length so valve box does not ride on the extension when set at grade.
2. Backfill shall be the same as specified for the adjacent pipe. Place backfill around the valve boxes and thoroughly compact to a density equal to that specified for the adjacent trench and in such a manner that will not damage or displace the valve box from proper alignment or grade.

3.04 HYDROSTATIC TESTS

- A. After a new main has been laid and backfilled, it shall be flushed for a sufficient time to replace the water in the main at least twice. All flushing shall be full-bore flush. Flushing velocity shall be 2.5 fps. If it is not practical to flush larger pipe diameters due to the availability of flows or a way to dispose of the flows, use "pigging" at a lower velocity.
- B. Main shall then be pumped to a pressure of 150 psi and all visible leaks stopped by approved methods. A leakage test shall then be conducted at the above pressure. No installation will be accepted by the agency having jurisdiction until the leakage is less than the number of gallons per hour as determined by the formula below

$$L = \frac{S D (P)^5}{133,200}$$

in which L equals the allowable leakage in gallons per hours; S is length of pipe tested in feet; D is the nominal diameter of the pipe in inches; and P is the average test pressure during the leakage test, in pounds per square inch gauge. The test shall be maintained for two hours. Water supplied to the main during the test to maintain required pressure shall be measured by a 5/8 inch meter installed on the discharge side of the test pump, or by pumping from a calibrated container, all in accordance with AWWA C-600. All visible leaks shall be repaired regardless of the leakage allowance.

3.05 ADJUSTING EXISTING STRUCTURES

- A. Existing valve boxes or other similar items within the limits of the proposed work, that do not conform to the finished grade of the proposed pavement, or to the finished grade designated on the plans, shall be cut down or extended, and made to conform to the grade of the new pavement, or to the designated grade of the surface if outside of the proposed pavement area. The materials and construction methods for this work shall conform to the requirements specified above.

3.06 RESTORATION

- A. Existing surfaces or property improvements damaged during the construction of work specified in this section shall be repaired in accordance with the requirements of Stantec Specifications Section 02705, RESTORATION AND GENERAL REQUIREMENTS.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. The quantities of lines to be paid for under this section shall be the lengths of the various types and sizes of pipe satisfactorily completed according to the Contract Documents. The pay quantity shall be in linear feet measured along the horizontal centerline of the pipe with no deductions for valves or fittings.
- B. Valves to be paid for under this section shall be the number of each size and type of valve, including valve box, satisfactorily installed accordingly to the Contract Documents.
- C. Hot taps to be paid for under this section shall be the number of hot taps installed complete with tapping sleeve and tapping valve according to the Contract Documents.
- D. PVC Conduits for future lines shall be paid for as established in the proposal section of the Contract Documents. Payment by the linear foot or for each lateral crossing shall include a locator disk at each end as an incidental cost to the pay item specified.

- E. Other miscellaneous items such as blow-offs and air release assemblies shall be paid for by the number of each pay item satisfactorily installed according to the Contract Documents. Each item shall include all components as shown in the plans or stated in the Contract Documents, such as manholes, castings, valves, fittings and other appurtenances as applicable.

4.02 BASIS OF PAYMENT

- A. The quantities, determined by the methods described above, shall be paid for at the contract unit prices established for each pay item. Such payment shall constitute full compensation for all work specified in this section including all labor, materials, equipment, and other incidental costs required to construct the work defined in this section.
- B. Unless otherwise specified in the Contract Documents, any fittings that are required to maintain horizontal and vertical alignment shall not be paid for separately. The cost of any such fitting shall be included in the contract unit price for the water line to which the fitting is connected.
- C. Unless otherwise specified in the Contract Documents, restoration work shall not be paid for separately. The cost of any such restoration work shall be included in the various work items that necessitate the restoration.

END OF SECTION 02710

**SECTION 02813
SEEDING, MULCHING, AND SODDING**

PART 1 GENERAL

1.01 DESCRIPTION

- A. Work specified in this section consists of the required sodding, grassing and mulching, or hydro-seeding/mulching in conformity with the lines and grades shown on the plans.

PART 2 PRODUCTS

2.01 SODDING

- A. The sod shall be Argentine Bahia and shall be well matted with grass roots. It shall be sufficiently thick to secure a dense stand of live grass with a minimum thickness of two inches. The sod shall be live, fresh and uninjured at the time of planting. It shall be shaded and kept moist from the time of digging until planting.
- B. Fertilizer to be used shall be a standard balanced fertilizer, such as 6-6-6, 8-8-8, 10-10-10, with 25 percent organic.

2.02 GRASSING AND MULCHING

A. Seed

- 1. Unless other types of seed are called for in the plans or have been approved as an acceptable blend, permanent type grass seed shall be a mixture of 20 parts of Bermuda seed and 80 parts of Pensacola Bahia seed. Quick-growing type grass shall be species which will provide an early ground cover during the particular season when planting is done and will not later compete with the permanent grass. The separate types of seed used shall be thoroughly mixed immediately before sowing. Seed which has become wet shall not be used.
 - a. The Bermuda seed shall be an equal mixture of hulled and unhulled seed. The Pensacola Bahia seed shall be scarified seed, having a minimum active germination of 40 percent and a total germination of 85 percent. All seed shall meet the requirements of the State Department of Agriculture and Consumer Services and all applicable state laws.

B. Mulch

- 1. Unless otherwise approved by the ENGINEER, the mulch material used shall normally be dry mulch. Dry mulch shall be straw or hay consisting of oat, rye or wheat straw, or of pangola, peanut, coastal bermuda or bahia grass hay. Only undeteriorated mulch which can readily be cut into the soil shall be used.

C. Fertilizer

- 1. Commercial fertilizers shall comply with the state fertilizer laws. The numerical designations for fertilizer indicate the minimum percentages (respectively) of (1.)

total nitrogen, (2.) available phosphoric acid, and (3.) water soluble potash, contained in the fertilizer. The chemical designation shall be 12-8-8. At least 50 percent of the phosphoric acid shall be from normal super phosphate or an equivalent source which will provide a minimum of two units of sulfur. Unless otherwise approved by the ENGINEER, Type I fertilizer shall be used.

D. Dolomitic Limestone

1. Shall be an approved product, designated for agricultural use.

E. Water

1. The water used in the grassing operations may be obtained from any approved spring, pond, lake, stream or municipal source. The water shall be free of excess and harmful chemicals, acids, alkalis or any substance which might be harmful to plant growth or obnoxious to local residents or traffic. Brackish or salt water shall not be used.

F. Fertilizer Spreader

1. The device for spreading fertilizer and dolomitic limestone shall be capable of uniformly distributing the material at the specified rate.

G. Seed Spreader

1. The seed spreader shall be an approved mechanical hand spreader or other approved type of spreader.

H. Equipment for Cutting Mulch into Soil

1. The mulching equipment shall be a type capable of cutting the specified materials uniformly into the soil and to the required depth. Harrows will not be allowed.

I. Rollers

1. A cultipacker, traffic roller or other suitable equipment will be required for rolling the grassed areas.

2.03 HYDRO-SEEDING/MULCHING

A. Seed (all seed shall meet the requirements of the State Department of Agriculture)

1. Argentine Bahia - Scarified seed
2. Gulf Rye (or Brown Top Millet as approved) Note: to be used in conjunction with permanent type seed (1) above, during particular seasons when early ground cover is desired, as directed by the ENGINEER.

B. Mulch

1. The mulch material shall be wood cellulose fiber material for use in hydro-seeding

slurry, especially prepared for this purpose, or an approved substitute.

2. It shall be processed in such a manner that it will contain no growth-inhibiting or germination-inhibiting factors and shall be dyed an appropriate color for readily determining the rate of spread by visual observation. It shall be manufactured in such manner that after agitation in slurry tanks, with fertilizer, grass seed and water (and with other additives which may be approved for use), the fibers in the material will readily become uniformly suspended in the solution to form a homogeneous slurry; also that when the slurry is hydraulically sprayed on the ground, the mulch material will act to form a blotter-like ground cover impregnated uniformly with grass seed, and will allow the absorption of water and permit rainfall and watering to percolate to the undersoil.

The CONTRACTOR shall, if requested, submit appropriate certification from the producer or the supplier, that the material meets all of the above requirements, based upon laboratory and field tests of the product.

The air dry weight (as defined by the Technical Association of the Pulp and Paper Industry, for wood cellulose) shall be marked on each package by the producer.

C. Fertilizer

1. The fertilizer to be used shall be a standard balance fertilizer, such as 6-6-6, 8-8-8 or 10-10-10, with 25 percent organic unless otherwise recommended for any particular area as approved by the ENGINEER. Select acid forms of recommended fertilizer if pH adjustments is indicated by soil tests.

D. Water

1. The water used in the grassing operations may be obtained from any approved spring, pond, lake, stream or municipal water system. The water shall be free of excess and harmful chemicals, acids, alkalis, or any substance which might be harmful to plant growth or produce obnoxious odor. Salt water shall not be used.

E. Equipment

1. The equipment for mixing the slurry and for applying the slurry over the areas to be seeded shall be especially designed for this purpose, and shall meet the approval of the ENGINEER. It shall be capable of applying a uniform slurry, (and of the mulch, when specified to be included), in a uniform application over the entire area to be hydro-seeded.

PART 3 **EXECUTION**

3.01 SODDING

- A. Immediately before the sod is placed, fertilizer shall be applied evenly at the equivalent rate of approximately 20 pounds of 6-6-6 per 1,000 square feet and shall be cut into the soil with suitable equipment.

- B. The sod shall be taken up in 12-inch by 12-inch squares, except where the plans may call for narrower strips. The sod shall be firmly embedded by light tamping.
- C. After the sod has been placed, it shall be thoroughly watered. Water shall not be applied between the hours of 8:00 AM and 4:00 PM.
- D. Sodding includes maintaining sod until growth is established. All erosion, siltation and maintaining grades is the responsibility of the CONTRACTOR until the ENGINEER determines root system has adequately "survived" and taken "hold".

3.02 GRASSING AND MULCHING

- A. Fertilizing, seeding or mulching operations will not be permitted when wind velocities exceed 15 miles per hour. Seed shall be sown only when the soil is moist and in proper condition to induce growth. No seeding shall be done when the ground is frozen, unduly wet or otherwise not in a tillable condition.
- B. Whenever a suitable length of roadway slopes or adjacent areas has been graded, it shall be made ready, approved by the ENGINEER, and grassed in accordance with these specifications. Grassing shall be incorporated into the project at the earliest practical time in the life of the contract.
- C. All grassing shall be completed on shoulder areas prior to the placement of the friction course on adjacent pavement.
- D. The several operations involved in the work shall proceed in the following sequence: Fertilizing (and/or application of limestone) and preparation of the ground, spreading of mulch, seeding, cutting-in mulch and rolling.
- E. The ground over which the seed is to be sown shall be prepared by disk-harrowing and thoroughly pulverizing the soil to a suitable depth. The prepared soil shall be loose and reasonably smooth. It shall be reasonably free of large clods, roots, and other material which will interfere with the work or subsequent mowing and maintenance operation. No subsequent operations shall be commenced until the ENGINEER has approved the condition of the prepared areas.
- F. The fertilizer and/or limestone shall be spread uniformly in one or more applications as specified below:
 - 1. An initial application of 500 pounds per acre.
 - 2. Unless otherwise directed, a second application of 400 to 500 pounds per acre shall be applied within 90 calendar days after the initial application on projects which have not been accepted prior to this time.
 - 3. Unless otherwise directed, a third application of 400 to 500 pounds per acre shall be applied within 270 to 360 calendar days after the initial application on projects which have not been accepted prior to this time.

- G. On steep slopes or other areas where machine-spreading may not be practicable, the spreading may be done by hand. Immediately after the fertilizer is spread, it shall be mixed with the soil to a depth of approximately four inches.
- H. The plans or special provisions may designate that a separate application of fertilizer and/or dolomitic limestone be made subsequent to other operations.
- I. While the soil is still loose and moist, the seed shall be scattered uniformly over the grassing area. Unless shown otherwise in the plans or the special provisions, the rate of spread for the permanent type seed mixture shall be 150 pounds per acre.
- J. Seed of an approved quick-growing species of grass, such as rye, Italian rye, millet, or other cereal grass, shall be spread in conjunction with the permanent type seed mixture. The type of quick-growing seed used shall be appropriate to provide an early ground cover during the particular season when planting is done. The rate of spread shall be 30 pounds per acre.
- K. When mulching, approximately two inches, loose thickness, of the mulch material shall then be applied uniformly over the seeded area, and the mulch material cut into the soil with the equipment specified, so as to produce a loose mulched thickness of three to four inches. Care shall be exercised that the materials are not cut too deeply into the soil.
- L. Immediately after completion of the seeding, the entire grassed or mulched area shall be rolled thoroughly with the equipment specified. At least two trips over the entire area will be required.
- M. The seeded areas shall be watered so as to provide optimum growth conditions for the establishment of the grass. In no case, however, shall the period of maintaining such moisture be less than two weeks after the planting.
- N. On steep slopes, where the use of a machine for the cutting-in process described above is not practicable, the construction operations shall be modified as follows:
 - 1. The fertilizer shall be applied uniformly, at the rate specified, and shall be raked in and thoroughly mixed with the soil to a depth of approximately two inches.
 - 2. The seeding operations shall follow the fertilizing.
 - 3. The mulch material, in lieu of being cut into the soil, may be anchored down. Anchoring shall be done by either of the following methods:
 - a. Placing a layer of soil, approximately two inches thick by nine inches wide, along the upper limits of the mulch, and spotting soil piles over the rest of the area at a maximum spacing of four feet.
 - b. Spreading a string net over the mulch, using stakes driven flush with the top of the mulch, at six foot centers, and stringing parallel and perpendicular, with diagonals in both directions.

3.03 HYDRO-SEEDING/MULCHING

- A. The ground areas to be hydro-seeded/mulched shall be clean earth, free of tree limbs, stumps, roots, rocks, etc.
- B. Seed and Fertilizer -The proportions of seed and fertilizer used in the slurry shall be as follows or as otherwise approved by the ENGINEER.
 - 1. Gulf Rye or Brown Top Millet seed at 40 pounds per acre.
 - 2. Scarified Argentine Bahia seed at 100 pounds per acre.
 - 3. Apply fertilizer at the equivalent rate of 10 pounds of 6-6-6 per 1,000 square feet unless otherwise approved by the ENGINEER.
- C. Mulching -When the mulch material is to be included in the slurry mixture, it shall be applied at the rate of 1,000 pounds of mulch material per acre, when the moisture content of the "air-dry" mulch does not exceed ten percent. If this moisture content exceeds ten percent, a proportional increase of mulch material shall be made, as directed by the ENGINEER. The application of the slurry over the seeding areas shall be in accordance with the directions of the manufacturer of the hydro-seeding equipment, and as directed by the ENGINEER. The slurry mixture shall be maintained uniform by continuous agitation during the application.
- D. Watering -The hydro-seeding areas shall be watered so as to provide optimum growth conditions for the establishment of the grass. In no case, however, shall the period of maintaining such moisture be less than four weeks after planting.

3.04 MAINTENANCE

The CONTRACTOR shall, at their expense, maintain the planted or sodded areas in a satisfactory condition until final acceptance or completion of the project, whichever is the latest. Such maintenance shall include the filling, leveling and repairing of any washed or eroded areas as may become necessary, equipment damaged areas, etc. The ENGINEER, at any time, may require replanting or resodding of any areas in which the establishment of the grass stand does not appear to be developing satisfactorily. Replanting or replacement shall be at the CONTRACTOR's expense.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

The quantity to be paid for shall be the area in square yards of sodding, grassing and mulching, or hydro-seeding/mulching, completed and accepted. The quantity shall be determined by the actual measurement in place within the lines which were authorized. When this work is required for restoration due to pipeline installation, all disturbed areas will be covered.

4.02 BASIS OF PAYMENT

The quantity of sodding, grassing and mulching, or hydroseeding/mulching, as determined above, shall be paid for at the contract unit price per square yard for these items, which price

and payment shall be full compensation for all labor and material, transportation and any other items necessary for satisfactorily performing the work described on the plans and in conformity with these specifications. When this work is required for restoration due to pipeline installation, the costs will be included in the pipeline unit prices.

END OF SECTION 02813

**SECTION 02814
CONCRETE CURBS, GUTTERS, MANHOLE FRAMES, STORM INLETS, ETC.**

PART 1 GENERAL

1.01 SCOPE

- A. These specifications make reference to the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, hereafter referenced as FDOTSPEC. Work covered in this section consists of furnishing all labor, equipment, materials and the performing of all operations necessary for construction of:
1. All concrete curbs, gutters, walks, medians, aprons, etc.
 2. All storm water inlets including throat inlets, catch basins, and grated inlets.
 3. Adjustment or installation of sanitary and storm manhole frames and covers, or grates, inlet grates, gate-valve boxes, and other similarly exposed utilities in paved areas.

1.02 SPECIFICATION AND STANDARDS REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc., are referenced, such references shall be the latest edition.

PART 2 PRODUCTS

2.01 CONCRETE CONSTRUCTION

- A. All concrete and concrete work shall conform to the following specifications unless otherwise noted on the plans. All concrete specified in this section shall attain a minimum compressive strength of 3,000 psi in 28 days.
- B. Concrete Mix Materials
1. Coarse aggregate shall be hard, clean, washed gravel or crushed stone. Minimum aggregate size shall not be larger than one inch nor smaller than one-half inch equivalent diameter. Fine aggregate shall be clean, sharp sand. Water shall be clean, fresh, free from injurious amounts of minerals, organic substances, acids or alkalis. Cement shall be Type I, domestic Portland cement, meeting the requirements of ASTM C 150.
- C. Concrete Admixtures
1. Air-entrainment admixtures in concrete are permitted in accordance with manufacturer's specifications provided specified strength and quality are maintained and unless admixtures appears to be causing abnormal field results, and total entrained air content does not exceed five percent. No other admixture of any type will be permitted without written approval of the ENGINEER.

D. Reinforcement Steel

1. Reinforcing bars shall be intermediate grade, new billet-steel, deformed bars, free of loose rust, scale, dirt or oil, and shall conform to ASTM A15 "Specifications for Billet-Steel Bars for Concrete Reinforcement." Rebar deformations shall conform to ASTM A305. Welded wire fabric for concrete reinforcement shall conform to ASTM A185, "Specifications for Welded Steel Wire Fabric for Concrete Reinforcement." All reinforcement steel shall be placed, spliced, lapped, etc. in accordance with the ACI Standard 318, Building Code Requirements For Reinforced Concrete.

E. Transit Or Ready-Mixed Concrete

1. Transit or ready-mixed concrete may be used provided it meets the requirements of ASTM C 94, Ready Mixed Concrete, and provided the central plant producing the concrete, the batching, mixing and transportation equipment, in the opinion of the ENGINEER, is suitable for the production and transportation of the specified concrete.

PART 3 **EXECUTION**

3.01 CONSTRUCTION METHODS

- A. Work shall be performed to lengths and cross-sections shown on the plans. Forms shall be of sufficient strength to resist pressure of the concrete without springing. Bottom forms shall not be removed within twenty-four hours after concrete has been placed. Side or top forms shall not be removed within 12 hours after concrete has been placed. Upon removal of forms, minor defects shall be corrected with a rich mix of cement mortar. Curbs, gutters, walks or medians shall be finished until a smooth surface is attained. Final finish shall be a light broom finish. When completed, concrete shall be cured as specified.

3.02 PLACING OF CONCRETE

- A. Concrete shall be deposited in clean wet forms and as nearly as practicable in its final position to avoid segregation. Concrete placing shall be carried on at such a rate the concrete is at all times plastic and flows readily into spaces between the bars. Concreting shall be a continuous operation until the panel or section is completed. All structural concrete shall be vibrated. No concrete shall be allowed a free fall of more than four feet or allowed to strike against a vertical or inclined surface or reinforcement above the point of deposit. Placing by means of pumping may be allowed, contingent upon the adequacy of the equipment for this particular work. The operation of the pump shall be such that a continuous stream of concrete without air pockets is produced. Placing of concrete shall be so regulated pressure caused by wet concrete shall not exceed that used in the design of the forms. After concrete has taken its initial set, care shall be exercised to avoid jarring the forms or placing any strain on the ends of projecting reinforcement.

3.03 MACHINE-LAYING

- A. Machine laying of work will be permitted, providing all quality conditions of conventional construction are met.
- B. As a specific requirement for machine-laid curb and gutter, contraction joints shall be sawed unless an alternate method of constructing them is approved in writing by the ENGINEER. Joints shall be sawed as soon as the concrete has hardened to the degree that excessive raveling will not occur and before uncontrolled shrinkage cracking begins. Contraction joints shall be spaced at intervals of ten feet except where a lesser interval is required for closure, but no section shall be less than four feet in length.

3.04 CURING

- A. As soon as practicable after finishing, all concrete shall be covered with burlap and kept moist for a period of seven days or, an approved membrane curing compound may be applied at the CONTRACTOR's option. Where membrane curing compound is used, no walking or other traffic will be allowed over the slab for 72 hours after application unless the surface is protected by burlap or heavy building paper. Curing shall meet the requirements of FDOTSPEC Section 520-8.

3.05 JOINTS

- A. Construction Joints: Joints not shown or specified shall be located as to least impair the strength and appearance of the work. Placement of concrete shall be carried on at such a rate that the surfaces of concrete which have not been carried to joint levels will not have attained initial set before additional concrete is placed thereon.
- B. Contraction Joints: Curbs-and-gutters, and valley gutters shall be constructed with contractions joints at intervals of ten feet except where shorter intervals are required for closures, but no joint shall be constructed at intervals of less than four feet. Sidewalks and concrete medians shall be constructed with contraction joints at intervals equal to the width of the walk or median respectively unless otherwise noted on the plans. Contraction joints may be of the open type, tooled or sawed. Construction and construction procedures of contraction joints shall conform to the specifications set forth in the FDOTSPEC.
- C. Expansion Joints: Curbs, curb-and-gutters, and valley gutters shall be constructed with expansion joints at all inlets, all radius points, all points where operations cease for any considerable time and at intervals of not more than 500 feet. Walks and concrete medians shall be constructed with expansion joints at points of walk or median termination against an unyielding surface and at intervals not to exceed 90 feet. Expansion joints shall be constructed with PVC slips encasing the reinforcing bars. Expansion joint material shall be one-half inch bituminous impregnated expansion joint material which meets the requirements of FDOTSPEC, 932-1.1. Expansion joints between the sidewalk and the curb or driveway or at fixed objects and sidewalk intersections shall be one-half-inch joints, formed with a preformed joint filler meeting the requirements specified in FDOTSPEC, 932-1.1.

3.06 CONTRACTORS RESPONSIBILITIES

- A. Prior to placing any concrete, the CONTRACTOR shall give the ENGINEER sufficient advance notice of same. No concrete shall be placed on any subgrade or in any formwork until the subgrade, formwork, reinforcing steel, anchor bolts and other imbedded items have been reviewed.
- B. CONTRACTOR is fully responsible for all concrete and concrete work and finishes, and shall reject all delivered concrete and finishes not meeting these specifications. CONTRACTOR shall also be responsible for securing laboratory tests or reports if such tests or reports are requested by ENGINEER.
- C. ENGINEER may, at their discretion, request that specified tests be conducted and reports furnished at the CONTRACTOR's expense. Normally the ENGINEER will not require testing of more than one set of four compression test cylinders per 50 cubic yards, (or part thereof). In no case shall there be less than one test for each day concrete is poured.
- D. From each test, one cylinder shall be tested by the laboratory at seven days, and two at 28 days, or as directed by the ENGINEER. One cylinder shall be kept as a reserve.

3.07 EXCAVATION AND BACKFILL

- A. Excavation shall be to the required depth, and supporting earth, base, or subgrade shall be compacted. When the plans call for a stabilized subgrade under the curb or gutter, subgrade shall be stabilized, and tested if required, as set forth elsewhere in these specifications and as indicated on the plans. When the plans call for a soil-cement base, subgrade supporting the curb or gutter shall be compacted by watering, rolling or tamping to 95 percent of maximum density as determined by AASHTO-T-180. Subgrades for walks and concrete medians shall be compacted to a firm, even surface, by means of rolling, watering and/or tamping.
- B. After the concrete has set sufficiently, but not later than three days after placing, the spaces in front and back shall be backfilled with suitable material and compacted. When street bases are to be constructed adjacent to curbs, gutters, etc., the curbs, gutters, etc., shall be properly backfilled and shall cure for a period of not less than three days before any base material is placed against it.

3.08 STORM WATER INLETS

- A. Construction of storm water inlets shall include all work and materials necessary for final construction by CONTRACTOR of throat inlets, catch basins, grated manholes, or other storm water inlets.
- B. Construction of throat inlets shall be to the lines, elevations and dimensions shown on the plans and include forming of the throat and construction of the top slab with frame and cover, and supporting walls.

- C. Construction of grated inlets, catch basins, manholes, etc. shall be to the elevations and dimensions shown on the plans. Construction shall include any reasonable adjustment and realignment of the grate necessary (if grates are installed by the previous CONTRACTOR), or the installation of inlet grates. Frames shall be secured in mortar and the mortar struck smooth inside and out.

3.09 MANHOLE FRAMES AND COVERS

- A. Manhole frames with covers or grates in paved areas shall be installed/adjusted flush with the final paved surface. Frames and covers shall be milled to prevent rocking of the cover when passed over by a motor vehicle. Frames shall be secured in mortar or concrete and surfaces struck smooth inside and out. Gate valve boxes and other similarly exposed utilities shall be raised or lowered as required to insure a flush, even surface with the adjacent paved area.

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. Payment shall be made on a unit price basis in accordance with the construction contract.
- B. Units of payment stated in the contract cover the following:
 - 1. Concrete Curbs, Gutters, Walks, Medians and Valley Crossing: Payment for concrete curb-and-gutters, vertical curbs, and valley gutters shall be on the basis of actual lineal feet in place. Payment for valley crossings shall be on a per unit basis. Concrete medians shall be paid on the basis of actual square feet in place. Concrete walks shall be paid on the basis of actual linear feet completed unless otherwise noted. Concrete aprons, inlet channels, etc., shall be paid on the basis of actual square feet completed, unless otherwise noted. Unit cost for the construction of the above stated work shall include all equipment, labor and materials; shall include all excavation, trenching, subgrade compaction, backfilling, etc., necessary to perform the work in accordance with the plans, specifications, and good construction practices.
 - 2. Storm Water Inlets: Payment for storm water inlets, as defined herein, shall be on a unit basis. Unit cost of construction shall include all labor, equipment, materials, excavation, backfilling, structural adjustments, etc., necessary to perform the work in accordance with the plans, specifications and good construction practice. Payment for the installation or adjustment of manhole frames and covers or grates shall be included in the cost of storm water inlets. Unit costs shall include all materials, equipment, labor backfilling, etc., necessary to perform the work in accordance with the plans, specifications, and good construction practice. Costs for adjustment of gate-valve boxes and other similar utilities in paved areas shall be considered as incidental.

END OF SECTION 02814

**SECTION 02817
CLEARING AND GRUBBING**

PART 1 GENERAL

1.01 SCOPE

- A. Work specified in this section consists of clearing and grubbing within areas specified in the Contract Documents or as directed by the OWNER's representative. Work under this section includes removal and disposal of all trees, brush, stumps, grass, roots, and other such protruding objects. Also included is the removal and disposal of buildings, structures, existing pavement, other existing facilities, and debris not required to remain or to be salvaged that is necessary to prepare the area for the proposed construction. CONTRACTOR shall notify all utility companies or utility owners (both public or private) of their intent to perform such work and shall coordinate field location of utility lines prior to commencement of construction.

- B. Other miscellaneous work considered necessary for the complete preparation of the overall project site is also included under this section. Work includes, but is not limited to, the following:
 - 1. Plugging of wells encountered within the project limits which are to be abandoned.
 - 2. Leveling and restoration of terrain outside the limits of construction for purposes of facilitating maintenance and other post-construction operations.
 - 3. Trimming of certain trees and shrubs within project limits for utilization in subsequent landscaping of the project.
 - 4. Plugging or sealing of culvert pipes or other structures to prevent erosion or collapse of adjacent soils.

1.02 SPECIFICATION AND STANDARDS REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc. are referenced, such references shall be latest edition.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 CLEARING AND GRUBBING

- A. Clearing and Grubbing shall consist of complete removal and disposal of all items stated in Article 1.01 which are not specified for removal under other items of the contract. The CONTRACTOR shall obtain all permits/approvals necessary for

disposal at their own expense. The CONTRACTOR shall obtain tree removal permits.

B. Unless otherwise shown in the plans or Contract Documents, Standard Clearing and Grubbing shall be done within the following areas:

1. All areas where any type of excavation is to be done.
2. All areas where any type of embankment will be constructed.
3. All areas where any type of structure, including pipe culverts or pipe lines, will be installed or constructed.
4. All areas where any type of pavement will be constructed.
5. Other areas designated in the plans or by the specifications.

C. Depths of Removal

1. In areas listed below, all roots and other debris shall be removed to a depth of at least one foot below ground surface. The surface shall then be plowed to a depth of at least six inches and all roots exposed shall be removed to a depth of at least one foot. All stumps including subsurface roots shall be completely removed to the satisfaction of the ENGINEER. Trees shall be removed so roots are pulled out rather than broken or sawed off. Areas requiring the removal methods stated in this paragraph are as follows:
 - a. Excavation areas where the excavated material is to be used in embankment construction under permanent structures such as but not limited to pavement and buildings.
 - b. Embankment areas under permanent structures such as but not limited to pavement, buildings, sewage treatment facilities, bridges, etc.
 - c. Excavation areas where roots or similar vegetation in the top one foot would interfere with disking, harrowing, or finish grading operations prior to seeding or landscaping.
 - d. Lots and building areas.
2. In all other excavation areas not listed above where clearing and grubbing is to be done, all roots, stumps, and debris protruding through or appearing on the surface of the completed excavation shall be removed or cut off below the excavated surface.
3. In all other embankment areas not listed above where clearing and grubbing is to be done, all roots, stumps, and debris protruding through or appearing on the surface shall be removed to a depth of at least one foot below the surface but no plowing or harrowing will be required in these areas.

- D. Trees to Remain: As an exception to the above provisions, where so directed by the OWNER's representative, desirable trees within the clearing limits shall be protected, left standing, and trimmed to prevent damage to limbs during construction. No equipment shall stand, stop, or travel across or inside the drip line of any trees or vegetation designated to be saved or protected.
- E. Boulders: Any boulders laying on the top of the existing surface or otherwise encountered during the clearing and grubbing shall be removed and disposed of by the CONTRACTOR in areas provided by the CONTRACTOR. As an alternate to off-site disposal and at the CONTRACTOR's expense, he may elect to utilize these boulders in embankments provided the conditions of Article 3.04 in Section 02820 are satisfied. Any breaking or splitting of boulders that may be necessary to comply with size requirements for embankment shall be incidental to the cost of clearing and grubbing. No boulders or rock shall be left or placed in building pads, lots, or building embankment areas.

3.02 SELECTIVE CLEARING AND GRUBBING

- A. Selective clearing and grubbing shall consist of removing and disposing of all vegetation, obstructions, etc, as provided above except that in non-structural areas where the CONTRACTOR so elects, roots may be cut off flush with the ground surface. Stumps shall be completely removed. Undergrowth shall be completely removed except in areas designated by the OWNER's representative for aesthetic purposes.
- B. Desirable trees, that are designated by the OWNER's representative to remain, shall be protected and trimmed in such a way to avoid damage to limbs during construction.

3.03 SPECIAL CLEARING AND GRUBBING

- A. In certain areas that are inaccessible by machines or are considered environmentally sensitive, ENGINEER may specify Special Clearing and Grubbing. Where listed as a separate pay item, Special Clearing and Grubbing shall consist of removal and disposal of all trees, brush stumps, roots, debris or other objects protruding through the surface by cutting off flush with the ground surface. The use of any machinery that would disturb the original ground surface condition will not be permitted.

3.04 ERADICATION OF EXOTIC VEGETATION

- A. Where listed as a separate pay item, Eradication of Exotic Vegetation shall consist of removal and disposal of Australian Pine, Melaleuca, Brazilian Pepper, and other species specifically stated on the plans or specified herein. Also included shall be the removal of the subsurface root system for each exotics.
- B. In areas where removal is modified to permit cutting off flush with in the ground surface, stump and root system shall be treated with an agency approved chemical herbicide that will ensure the eradication of the root system.

- C. Within the limits established for the Eradication of Exotic Vegetation, all other trees, brush, etc. not classified as exotic shall be removed, unless designated in the field by the OWNER's representative to remain. The removal and disposal of non-exotic vegetation shall conform to the provisions of Article 3.01.

3.05 REMOVAL OF EXISTING PAVEMENT

- A. Work specified in this article consists of the removing and disposing of existing pavement surfaces such as, but not limited to, pavement, sidewalk, curb, and gutter where shown in the plans, or required to be removed during construction operations, or as required by the ENGINEER.

3.06 REMOVAL OF EXISTING STRUCTURES

- A. Work specified in this article shall include removal and disposal of existing buildings, bridges, pipes, and structures of whatever type as specifically shown in the plans to be removed or as otherwise specified for removal in the Contract Documents. Also included are structures of whatever type or portions thereof which are encountered during construction operations. Where partial removal of a structure is approved by the ENGINEER, the portion of the existing structure shall be backfilled, plugged, or filled in such a way that will prevent the settlement, movement, erosion or collapse of the adjacent soils.

3.07 BURNING ON-SITE

- A. Unless otherwise stated in the Contract Documents, burning may be permitted within the project limits provided the burning operation complies with all applicable laws, ordinances, and other regulatory agencies. All permits required shall be obtained by the CONTRACTOR prior to the start of burning and all permit regulations shall be strictly adhered to. All burning shall be done at locations where trees and shrubs adjacent to the cleared area will not be harmed.

3.08 DISPOSAL OF MATERIALS

- A. Timber, stumps, roots, brush, boulders, rubbish, and other objectionable material resulting from work specified in this section shall be disposed of off-site in locations provided by the CONTRACTOR.

3.09 OWNERSHIP OF MATERIALS

- A. Except as may be otherwise stated in the Contract Documents, all buildings, structures, appurtenances and other materials removed by the CONTRACTOR shall become the property of the CONTRACTOR, to be disposed of in areas provided by him.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. General: For the various items of work specified in this section when listed as a separate pay item, payment shall be made by the unit price or the lump sum amount as established in the Contract Documents. Where no separate pay item is established, the cost of all such work shall be included in the various scheduled items of work specified in the Contract Documents, except as provided below.

- B. Clearing and Grubbing: Measurement of Clearing and Grubbing shall include only the areas specified in the Contract Documents that are required to be cleared to permit the construction of the various items of work. Areas that are cleared for convenience, access, or other purposes that are not a requirement of construction will not be measured for payment.

- C. Selective Clearing and Grubbing: Measurement of Selective Clearing and Grubbing shall include all areas shown in the plans or designated in the field by the OWNER's representative. This measurement shall include the total area within the limits of Selective Clearing and Grubbing and no deduction shall be made for areas in which desirable trees and brush are designated to remain. Where the limits of Selective Clearing and Grubbing are shown on the plans or otherwise established in the Contract Documents but no separate pay item established, the measurement of such work shall be included in the quantity or lump sum amount of "Clearing and Grubbing".

- D. Special Clearing and Grubbing: Measurement of Special Clearing and Grubbing shall include all areas shown in the plans or designated in the field by the OWNER's representative. This measurement shall include only actual areas cleared by the hand method and shall not include areas cleared by other methods or areas that remain in their original condition. Where the limits of Special Clearing and Grubbing are shown on the plans or otherwise established in the Contract Documents but no separate pay item established, the measurement of such work shall be included in the quantity or lump sum amount of "Clearing and Grubbing".

- E. Eradication of Exotic Vegetation: Measurement of Eradication of Exotic Vegetation shall include areas shown on the plans or designated in the field by the OWNER's representative. This measurement shall include the total area within the limits established for Eradication of Exotic Vegetation and include the areas within these limits where non-exotic vegetation is removed. Where the OWNER's representative has designated desirable vegetation to remain within these limits, no deduction of area shall be made for the "saved" areas.

Where limits of Eradication of Exotic Vegetation are shown on the plans or otherwise established in the Contract Documents but no separate pay item established, the measurement of such work shall be included in the quantity or lump sum amount of "Clearing and Grubbing."

- F. Removal of Existing Pavement: When a separate pay item is established for the Removal of Existing Pavement, the quantity to be paid shall be by the square yard

for the actual quantity removed and disposed of off-site. For curb and gutter, slope pavement, and other irregular areas, the measurement shall be generally taken as an approximate horizontal surface. Where lump sum payment is provided, such payment shall be compensation for the removal of areas shown on the plans or otherwise specified in the Contract Documents.

Where a separate pay item is established for curb, gutter, or curb and gutter removal, the measurement shall be measured by the lineal foot at the flow line of the gutter or at the top of curb where there is no gutter. Where separate pay has not been provided for curb or curb and gutter removal, the measurement shall be included in the area for pavement removal as stated above.

When no separate payment is provided for the Removal of Existing Pavement and no applicable item of excavation or embankment covering such work is listed, the costs of this work shall be included in the contract price for the item of Clearing and Grubbing or for the pipe or other structure of which the pavement removal is required.

- G. Removal of Existing Structures: When separate payment for Removal of Existing Structures or Removal of Existing Buildings is provided, the work shall be paid for at the contract lump sum price. When direct payment is not provided, the cost of such removal and disposal shall be included in the contract price for Clearing and Grubbing or if no clearing and grubbing is included, in the compensation for the other items covering the new structure to be constructed.
- H. Burning: Unless otherwise specified in the Contract Documents, and where permitted, burning shall be considered as being part of the process of disposing of materials and the cost of such work shall be included in the item which requires the disposal of materials.

4.02 BASIS FOR PAYMENT

- A. General: Prices and payments for the various work items included in this section shall constitute full compensation for all work described herein and shall include all removal, disposal, protecting, trimming, breaking, plugging, eradication, or any other items specified in this section.
- B. Pay Items: For all work specified in this section, payment shall be made in accordance with the list of pay items established or as otherwise defined in the Contract Documents. The description of a pay item in the proposal section may vary from the descriptions stated in this section.

END OF SECTION 02817

**SECTION 02820
EXCAVATION AND EMBANKMENT**

PART 1 GENERAL

1.01 SCOPE

- A. Work specified in this section consists of excavation and embankment required for roadways, lakes, ditches, swales, berms, canals, parking areas, site fill, building pads, retention areas, structure excavation, and other similar work described herein or shown on the plans. This section includes preparation of subgrades, construction of embankments, utilization or disposal of materials excavated, and compaction and finish grading of excavated areas and embankments. All work shall conform to the proposed alignment, elevations, slopes, and cross-sections shown on the plans.

1.02 SPECIFICATION AND STANDARDS REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc. are referenced, such references shall be latest edition.

PART 2 PRODUCTS

Not Used

PART 3 EXECUTION

3.01 CLASSIFICATION OF EXCAVATION

- A. General: Included in the excavation under this section are materials of whatever nature encountered within the required limits of excavation (except material removed during clearing and grubbing). Determination of sub-surface conditions and its effect on construction costs are the sole responsibility of the CONTRACTOR. Sub-surface conditions between soil borings that may be provided can vary greatly from those conditions found at the location where the sample was extracted.

Locating existing underground utilities shall be the responsibility of the CONTRACTOR. In the event of any utility conflict, the CONTRACTOR shall immediately inform the utility company, OWNER and the ENGINEER of the conflict. CONTRACTOR shall be responsible for the immediate repair of any utility lines damaged during construction. CONTRACTOR shall notify all utility companies or utility owners, both public or private of their intent to perform such work and coordinate field location of utility lines prior to commencement of construction.

Where separate classification is provided in the proposal, excavation specified under this section may be listed as any of the following classes: (1) Regular Excavation, (2) Swale Excavation, (3) Subsoil Excavation, (4) Rock Excavation, (5) Lake Excavation (unclassified).

For any of the above classifications not specifically listed as a separate pay item in the proposal or included as part of another pay item, all excavation of such type shall be

included under the item of Regular Excavation. If the item of Regular Excavation is not listed in the proposal, all costs included in the excavation of roadway, swales, subsoil, rock, lakes, structures (including utilization or disposal of materials) shall be incidental to the general cost of the project and no additional compensation will be allowed.

- B. Regular Excavation: Regular Excavation shall consist of excavation of materials necessary for construction of roadways, ditches, sidewalks, building pads, retention ponds, and other surfaces as shown in the plans. Excavated material suitable for embankment shall be utilized in areas requiring fill with all excess material spread or stockpiled on site where shown on the plans or as directed by the OWNER's representative.
- C. Swale Excavation: Swale Excavation shall consist of excavation of swales and ditches as indicated on the plans and shall include the utilization of suitable excavated materials in areas requiring fill with all excess material spread or stockpiled on site where shown on the plans or as directed by the OWNER's representative.
- D. Subsoil Excavation: Subsoil Excavation shall consist of the excavation and off-site disposal of muck, clay, roots, or any other material that is determined to be unsuitable by the OWNER's Geotechnical Engineer in its original position and that is excavated below the finished grading template. If provided in the plans or Contract Documents unsuitable material shall be stockpiled in areas on site designated by the OWNER.
- E. Rock Excavation: Rock Excavation shall consist of excavation of rock and boulders necessary for construction of roadways, ditches, lakes, and other cut sections shown on the plans. It shall also include the utilization and disposal of excavated rock and boulders according to Articles 3.02, 3.03, and 3.04 in this section.

For the purpose of classifying rock excavation as a pay item, the rock strata encountered shall be of such thickness and hardness as to preclude removal by using a modern 3/4 yard hydraulic backhoe maintained in excellent operating condition, Caterpillar 235 or equal.

- F. Rock Blasting: All blasting is strictly prohibited.
- G. Lake Excavation (Unclassified): Lake Excavation (Unclassified) shall consist of excavation of all material necessary for construction of lakes according to the depths, dimensions, side slopes, and in the locations shown in the plans. It shall also include the utilization of excavated materials and the disposal of unsuitable materials in accordance with Articles 3.02 and 3.03 in this section. All materials excavated shall be considered as "unclassified". CONTRACTOR shall be responsible for any investigation of sub-surface conditions and subsequent determination of the amount of rock, roots, and other materials to be incorporated into his price.

CONTRACTOR shall construct the lake banks in strict accordance with the ordinances or laws governing the excavation. All slopes must be equal to the specified slopes. The bottom of the lake shall not be excavated below the specified depth without prior written approval of the OWNER and the governing agency.

- H. Structure Excavation: Work specified in this sub-article consists of excavating for bridge foundations, box culverts, pipe culverts, sewers, pipe lines, retaining walls, pump stations, manholes, inlets, catch basins, sewage and water treatment plants and other similar type facilities shown on the plans. It shall also include (1) the construction and removal of cofferdams, sheeting, bracing, etc.; (2) dewatering; (3) disposal of structures (of whatever type) encountered during excavation; (4) disposal of unsuitable materials; (5) bedding materials; (6) backfilling and the compacting thereof; (7) utilization of excess suitable materials according to article 3.02 this section.

Material excavated (of whatever nature) shall be classified for utilization or disposal according to Articles 3.02 and 3.03. The excavation shall be of such size and depth as to facilitate the construction and/or installation of each structure according to the location and elevations shown in the plans. Rock blasting, rock excavation, demolition of structures or foundations, or any unusual or undefined work that may be necessary to complete the excavation for a structure shall be considered as work included in Structure Excavation.

If the excavation requires the use of cofferdams, dewatering, sheeting, or bracing, all such work will be done in strict compliance with all permit requirements and any laws or ordinances that may apply to the work being performed. It shall be the responsibility of the CONTRACTOR to familiarize himself with any regulations applicable and to satisfy said regulations at his own expense.

The structure shall be constructed or laid in dry dewatered excavation unless otherwise approved by the ENGINEER. In such cases where the excavation is unstable or has water in sufficient quantities that make uniform bedding impossible, the bottom of the excavation shall be stabilized as required. If washed shell is used, it shall be a graded according to the sieve analysis listed below:

100 percent passing 1½" screen
0 percent passing 5/8" screen

After the structure is complete, backfilling shall be performed in a careful manner so as not to disturb or damage the completed structure. The backfill material shall conform to the requirements of Sub-article 3.04.C., except that the size of rock shall not exceed 3 1/2 inches in diameter. The backfill material shall be compacted to the same or greater density as the adjacent existing earth.

3.02 UTILIZATION OF EXCAVATION MATERIALS

- A. General: All excavated materials suitable for embankment shall be utilized in the embankment areas shown in the plans or as otherwise specified in the Contract Documents. After the requirements for embankment have been satisfied, the surplus suitable excavated material shall be deposited in areas on-site as directed by the OWNER's representative, unless otherwise specified in the Contract Documents.

On projects where excavation does not provide enough material to satisfy embankment requirements, excavated materials shall first be utilized in the roadway or other permanent structure embankment, then into other embankment areas shown in the plans.

- B. Classification of Materials: Material shall be classified as "suitable" if it meets all the requirements of Sub-article 3.04.C. of this Section. A rock strata that can be excavated and split or screened to meet the requirements of Sub-article 3.04.C. shall be considered as "suitable" for embankment.

Material such as muck, or any other material containing excessive amounts of organic, silt, clay, or other deleterious materials shall be classified as "unsuitable" for embankment unless otherwise specified or classified by the ENGINEER.

The term "unclassified" simply refers to material that has not been defined as suitable or unsuitable.

If a dispute arises over the classification of materials, the final determination shall be made by the ENGINEER.

- C. Rock and Boulders: Rock and boulders shall be utilized on site as embankment unless otherwise specified. In all cases, the alteration or replacement of excavated material shall be at the CONTRACTOR's expense unless otherwise provided in the plans or Contract Documents.
- D. Muck: Although muck or other material high in organic content will not generally be permitted in embankment areas, certain conditions may require or permit its utilization. Muck will not be permitted in embankment unless specifically stated on the plans or specified herein. When so specified the placement of muck or other similar material will only be permitted outside of an imaginary downward 2:1 slope starting from the outward edge of roadway structure or other permanent structure.
- E. Top Soil: Where top of the existing surface is high in organic content, it may be necessary to strip the topsoil and reuse it or dispose of it. Topsoil shall be stripped and stockpiled on-site for later use as a layer under sod, grassing, or in landscaped areas. When an item of topsoil is not listed as a separate pay item in the Contract Documents, the placement of the stockpiled topsoil shall be included in the item of Clearing and Grubbing or Excavation. When topsoil is listed as a pay item, it shall be placed in locations shown in the plans to a specified thickness and to a finished elevation that will allow for the placement of sod, ground cover or other landscape related surface.

The material utilized as topsoil shall be suitable for plant growth and free from appreciable quantities of hard clods, stiff clay, hardpan, gravel, brush, large roots, refuse, or other deleterious materials. The organic content shall be at least 1.5 percent. The characteristics of the material shall be such that it can be adjusted to have a pH value between 5.0 and 8.0, or as approved by the ENGINEER.

3.03 DISPOSAL OF EXCAVATED MATERIALS

- A. Disposal of Surplus Materials: Ownership of all suitable excavated materials shall be retained by the OWNER unless otherwise stated in the plans or Contract Documents to be surplus material. When so specified the surplus material shall become the property of the CONTRACTOR to be disposed of outside the project limits. The cost of the disposal and furnishing the disposal area shall be included in the item requiring excavation and no additional compensation will be given.

- B. Disposal of Unsuitable Materials: Unsuitable excavated material as defined in Sub-article 3.02.B. shall become the property of the CONTRACTOR to be disposed of outside the project limits. The cost of the disposal and furnishing the disposal area shall be included in the item requiring excavation and no additional compensation will be given.

3.04 EMBANKMENT

- A. General: Embankments shall be constructed true to lines and grades shown in the plans or ordered by the ENGINEER. Material used in embankments shall be obtained from on-site excavation and/or from off-site borrow sources secured by the CONTRACTOR.
- B. Site Preparation: Subsequent to clearing and prior to placement of embankment material, the existing earth surface shall be compacted six feet beyond the building and pavement structure limits and in other areas shown in the plans or stated in the Supplementary Conditions. The existing surface shall be compacted at a moisture content such that the specific density requirement can be attained. Soil one foot below the compacted surface shall attain a density of 95 percent of the maximum theoretical density as determined by the Modified Proctor Density (ASTM-D-1557). Field density tests shall be conducted in accordance with ASTM D-1556, D-2167, D-2922, or D-2937 (latest revisions) by a certified laboratory or soils engineer approved by the OWNER. The location and number of the tests shall be verified by the ENGINEER.
- C. Requirements for Embankment Materials: Embankments shall be constructed of material containing no muck, stumps, roots, brush, vegetable matter, rubbish, or other material that will not compact into a suitable and enduring roadbed or similar foundation. Material designated as unsuitable in the soil borings or as classified as unsuitable by the ENGINEER shall be removed from the embankment and disposed of off-site. Utilization of material in embankment construction shall be in accordance with plan details or as directed by the ENGINEER.

The maximum size of rock which will be permitted in the completed embankment are as follows:

In top 12 inches -----	3 1/2 inches
12 inches to 2 feet -----	6 inches
In the 2 feet depth below ----	Not to exceed the compacted thickness of the layer being placed

When and where approved by the ENGINEER, the CONTRACTOR may place larger rocks outside the 2-to-1 slope of any structure embankment. Where such rock is utilized in any embankment, enough fine material shall be deposited and compacted between individual rocks so as to completely fill any voids that may occur during the placement of such material. No rock shall be utilized in any building pad embankment areas.

- D. Borrow Material: The use of borrow material shall be resorted to only when sufficient quantities of suitable material are not available from the various types of excavation required on the drawings. When borrow is required the material shall conform to the requirements of article 3.04.C. and shall be approved by the ENGINEER prior to placement. Borrow material shall be obtained from areas furnished by the

CONTRACTOR at his expense. Borrow sources shall comply with all local requirements applicable for the excavation and sale of fill material.

- E. Construction Requirements: Embankment material shall be placed in horizontal layers not to exceed 12 inches thickness measured loose. Each layer shall be leveled and compacted in accordance with Sub-article 3.04.F. No fill material shall be placed where area is wet. Dewatering may be required prior to filling operation, either by pumping or well pointing. Water shall not be allowed to stand on or adjacent to fill areas that could saturate the material.

When embankments are constructed on a hill or slope, slope shall be "stepped" so as to permit the embankment to be placed in horizontal layers and compacted as stated above. Upon completion of the embankment steps on a slope, steps shall be dressed to conform to the specified slope.

For any embankments not covered above, construction methods shall be approved by the ENGINEER prior to placement.

- F. Compaction Requirements: Materials shall be compacted at a moisture content such that the specific density can be attained. If necessary, water shall be added to the material, or the moisture content shall be lowered by manipulating the material or allowing it to dry, as is appropriate. Each layer of material shall be compacted by the use of a smooth drum vibratory roller or other method approved by the engineer. The top 12" of natural ground shall be compacted in accordance with be requirements listed below.

Field density tests shall be conducted in accordance with ASTM D-1556, D-2167, D-2922, or D-2937 (latest revisions) by a certified laboratory or soils engineer approved by the OWNER according to the Compaction Requirements stated below:

Embankment Area	Density ¹ Below 3'	Density ¹ 0' to 3'	Testing Frequency/Lift
Building Pads ²	95%	98%	1 Ea/2000 SF, Minimum 2 Ea/Structure
Pavement Areas ³	95%	98%	1 Ea/500 SY
Retention Areas ⁴	95%	95%	1 Ea/500 SY
Other Areas	N/A	N/A	N/A

¹ The percentage listed shall be the minimum acceptable amount of the maximum theoretical density as determined by the Modified Proctor Density (ASTM-D-1557).

² Includes future building pads and lots.

³ Includes any permanent pavement structure such as curb and gutter, sidewalk, roadway, shoulder, driveway, or any other similar surface.

⁴ Includes earth berms, water retention slopes, dikes, and other similar areas.

CONTRACTOR shall be responsible for scheduling of all soil testing. These soil testing costs shall be borne by the CONTRACTOR unless stated otherwise in the plans or specifications. Where the testing costs are borne by the OWNER, in the event of a test failure all subsequent tests required to pass density shall be at the expense of the

CONTRACTOR. The OWNER may deduct this expense from the CONTRACTOR's payment or request payment directly from CONTRACTOR.

3.05 FINISH GRADING

- A. General: As a final grading operation the surface of the earthwork shall be shaped to conform to the lines, grades, and contours shown on the plans. Hand dressing will be required in confined areas where equipment operation is restricted or where the equipment finished surface is unsatisfactory in the judgment of the ENGINEER.

CONTRACTOR shall take necessary precautions to prevent erosion of slopes before and after finish grading. Any erosion of whatever consequence shall be repaired at the expense of the CONTRACTOR until final acceptance of the project.

- B. Tolerances: In final shaping of the surface of earthwork a tolerance of 0.1 foot above or below the plan elevations and contours will be allowed with the following exceptions:
1. In areas where sod, ground cover or other finish landscape surface will be used, an allowance shall be made for the thickness of sod, etc. that will result in the finish landscape elevation to be within the above tolerance.
 2. Earthwork shall be shaped to match adjacent pavement, curb, sidewalk, structures, etc. with applicable allowance for sod, etc.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. General:
1. **VOLUMETRIC** – When payment is made on a volumetric basis, calculations shall be based on the method of average end areas or the grid cell method, unless the ENGINEER determines that another method will provide a more accurate result. The existing elevations shown on the plans or field survey taken by the ENGINEER shall be incorporated into the volume calculations. Should any of these existing elevations appear to be in error, the CONTRACTOR shall notify the ENGINEER in writing and resolve the dispute prior to disturbing the existing surface in question. Once the existing surface is disturbed by clearing, excavating, or any other construction, the CONTRACTOR's right to dispute the existing elevations shown by the ENGINEER will be nullified. After the excavation or embankment is completed, the finished surface shall be measured in place by field survey paid for by the CONTRACTOR and these cross-sections shall be incorporated into the volume calculations.
 2. **LOOSE VOLUME** – In special cases as shown in the Contract Documents, payment shall be made on a loose volume basis as measured in trucks or other hauling equipment. The volume capacity of each truck shall be measured and recorded by the OWNER's representative. Before unloading onsite, the OWNER's representative shall compare the loaded truck to its recorded capacity and record the actual volume on the load ticket. Only load tickets that have been

so recorded and collected by OWNER's representative at the point of dumping shall be included in the quantity for payment.

3. LUMP SUM – The proposal may contain items of work that are to be paid for on a lump sum basis. Additionally, the Contract Documents may provide for a lump sum payment for the entire project. The lump sum payment for individual items or for the entire project shall constitute full compensation for the completion of all work specified in the plans and specifications.
 4. PLAN QUANTITY – When cross-sectioning finished surfaces is not feasible, the ENGINEER may specify the final pay quantity of any item to be the original plan quantity. When so specified in the Contract Documents, such quantity will be revised only in the event that it is determined to differ by more than 10 percent of the original plan quantity. Such revisions will be determined by calculations of quantities from the plan sheets as applicable. Field measurement will not be considered except to verify that the work was accomplished in substantial compliance with the plan dimensions.
- B. Regular Excavation: Measurement of regular excavation shall include only the net volume of material excavated between the original ground surface and the surface of the completed earthwork. The pay quantity shall be the plan quantity in accordance with Article 4.01.A., unless otherwise stated in the Contract Documents.
- C. Swale Excavation: Measurement of swale excavation shall include only materials excavated within the line and grades indicated in the plans or as directed by the ENGINEER. Measurement may be by volume or lineal feet as called for in the Contract Documents.
- D. Subsoil Excavation: Measurement of subsoil excavation shall include only material excavated within the lines and grades indicated on the plans or as directed by the ENGINEER. Where the limits of subsoil excavation are not shown or vary from the limits shown on the plans, the pay quantity shall be determined by cross-sectioning measurements in accordance with the volumetric method described in Article 4.01.A. When the final pay quantity is more or less than the original plan quantity an appropriate adjustment shall be made to the applicable pay quantity for imported fill so that the loss or increase is compensated provided that the unsuitable material is to be disposed of off-site. A lower than plan volume will require less fill replacement and a higher than plan volume will require more fill replacement than originally calculated. However, if the subsoil excavation is displaced by onsite excavation, a quantity adjustment will not be made. Where no separate pay item is included in the contract, all such work involving the excavation and disposal of unsuitable material shall be considered incidental to the cost of the applicable excavation item.
- E. Rock Excavation: When rock excavation is listed as a separate pay item in the Contract Documents, measurement of rock excavation shall be by cross-sectioning method prior to and after the rock layer is excavated. CONTRACTOR shall allow enough time between operations to facilitate this field survey work.

If Rock Excavation is not listed as a separate pay item in the Contract Documents, the cost of all such work shall be included in the unit price for Regular Excavation, Swale

Excavation, Subsoil Excavation, Lake Excavation (Unclassified), or other items which may require the excavation of rock or boulders.

- F. Lake Excavation (Unclassified): Measurement of Lake Excavation (Unclassified) shall include only the net volume of material excavated between the ground surface and bottom of the lake using the VOLUMETRIC method as described in the first paragraph of Article 4.01.A. Any unauthorized overdigging or excavation below the plan bottom elevation will not be included in the measurement for payment.

If the sections indicate that the depths or bank slopes do not conform to the permitted design slopes or indicate that they are steeper, the CONTRACTOR shall correct the deficiency. Further, the CONTRACTOR shall pay for the expense of re-sectioning the lakes to document that said correction has been accomplished.

OWNER shall have the option of deducting the re-sectioning costs from the CONTRACTOR's payment, or the OWNER may request separate payment directly from the CONTRACTOR.

- G. Structure Excavation: Unless otherwise specified, there shall be no measurement for structure excavation. The cost of structure excavation shall be incidental to the cost of the applicable structure and no separate pay item will be established.
- H. Pavement removal: Measurement for pavement removal shall be by the square yard as measured in place prior to removal unless otherwise specified in the Contract Documents. When no separate pay item is included, the cost of such work shall be incidental to the item of clearing and grubbing or excavation as applicable.
- I. Topsoil: Measurement for topsoil shall be by the square yard as measured in place in locations shown in the plans or as directed by the ENGINEER. Placement of topsoil shall be to the thickness specified in the plans or Contract Documents, and it shall include the cost of furnishing the material as specified in Article 3.02.E. If enough excavated material is not available to satisfy the topsoil requirements, suitable topsoil shall be imported and the cost of furnishing and hauling this imported material shall be included in the unit price of the topsoil item.
- J. Embankment: When there is not enough suitable excavated material to satisfy the requirements of embankment, a separate item called Embankment or Borrow may be established in the Contract Documents to facilitate completion. Payment will be made only for material required to complete the embankment to the plan dimensions and elevations. Material placed beyond the limits shown on the plans will not be measured for payment.

For Embankment, the pay quantity shall be the plan quantity unless otherwise stated in the plans or Contract Documents. The measurement for embankment shall be the in place volume of material placed above the original surface elevation within the dimensions and elevations indicated on the plans less the neat volume of excavation. No allowance will be made for subsidence or shrinkage.

For Borrow, the pay quantity shall be made on a loose volume basis unless otherwise specified in the plans or contract Documents. The method of measurement shall be in accordance with the second paragraph of Article 4.01.A., LOOSE VOLUME.

- K. Berm Construction: Measurement for Berm Construction shall include only materials excavated within the lines and grades indicated in the plans or as directed by the ENGINEER. Measurement may be by volume or lineal feet as defined in the Contract Documents.
- L. Finish Grading: Measurement for Finish Grading shall only include areas that require a change in elevation to meet the new design grade. Placement of sod to an existing elevation would require finish grading to facilitate placement of sod. If there is no pay item for finish grading, the cost of all such work shall be incidental to the applicable item of excavation or embankment.

4.02 BASIS OF PAYMENT

- A. General: Prices and payments for the various work items included in this section shall constitute full compensation for all work described herein and shall include excavation, hauling, placing, compacting, and dressing of the finish surface. Said payments shall also include the following items when no separate pay item is included in the contract:
 - 1. Removal and disposal of existing pavement
 - 2. Clearing and grubbing
 - 3. Providing disposal areas
 - 4. Furnishing of borrow areas
 - 5. Permits and waiver costs
- B. Excavation and Embankment: Cost of utilizing suitable excavated materials and disposing of unsuitable excavated materials shall be included in the cost of the applicable excavation item, unless otherwise stated in the plans or Contract Documents. When separate classifications of Excavation and/or Embankment are listed as pay items in the contract, the quantities determined as provided above shall be paid at the contract unit price per cubic yard, square yard, lineal foot or lump sum as applicable. Such payment shall constitute full compensation for all items as described in this section or as stated in the plans or Contract Documents.
- C. PAY ITEMS: For all work specified in this section, payment shall be made in accordance with the list of pay items established or as otherwise defined in the Contract Documents. The description of a pay item in the proposal section may vary from the descriptions stated in this section.

END OF SECTION 02820

**SECTION 02822
RIPRAP**

PART 1 GENERAL

1.01 SCOPE

- A. The work specified in this section consists of the construction or riprap, composed of sand and cement or rubble as specified in the Contract Documents. The riprap shall be placed against the embankment or other work to be protected, in accordance with these specifications and in conformity with the lines, grades, dimensions and notes shown in the plans.

1.02 SPECIFICATIONS AND STANDARDS REFERENCE

- A. Any reference to a supplementary specification or standard such as ASTM, AWWA, AASHTO, is intended to be a reference to the latest edition of that specification or standard.
- B. All references to "FDOTSPEC" shall mean the latest edition of the "Florida Department of Transportation Standard Specifications for Road and Bridge Construction."

PART 2 MATERIALS

2.01 SAND-CEMENT

- A. Portland Cement used shall be Type I from an approved domestic manufacturer.
- B. Fine Aggregate shall meet the requirements of FDOTSPEC Subsection 902-3.3.
- C. Sacks shall be made of burlap unless otherwise approved by the ENGINEER and shall hold the sand-cement mixture without significant leakage when handled. The sack material shall be permeable and absorptive enough to permit passage of sufficient water to provide for hydration of the cement.

The sacks shall be uniform in size and strong enough to stand handling without ripping and splitting. Only one type and size of sack shall be used at any one location.

- D. Grout used shall be mixed from portland cement and fine aggregate as specified above in this section.

2.02 RUBBLE

- A. Rubble shall consist of broken rock or stone locally available. The material shall of sufficient hardness so as not to break or crumble while loading or placing, similar to the cap rock stratum found in southwest Florida.

- B. The pieces shall be roughly angular and shall be reasonably free from thin, flat, or elongated pieces. The rubble shall be a graded mixture of individual pieces ranging in size from three inches to 12 inches with at least 50 percent composed of pieces that measure six inches across the shortest dimension, unless otherwise specified.
- C. Bedding material shall be a crushed stone in accordance with ASTM C-33, gradation 67.

PART 3 CONSTRUCTION METHODS

3.01 SAND-CEMENT RIPRAP

- A. **Mixing Materials:** The sand and cement shall be proportioned in the ratio of five cubic feet of sand (loose volume) to 94 pounds (one bag) of cement. If the materials are proportioned by weight, sand shall be assumed to have a unit weight of 85 pounds per cubic foot (loose volume). Sand may be batched at the moisture content occurring in the stockpile.

The sand and cement shall be mixed until the mixture is of uniform color.

- B. **Filling Sacks:** The mixed material shall be accurately measured into each sack, with care being taken to place the same amount of material in each sack, and at least the top six inches of the sacks shall remain unfilled to allow for proper tying for folding and to insure against breaking of the sack during placing.
- C. **Placing:** The filled sacks shall be placed with their tied or folded ends all in the same direction unless otherwise shown in the plans. The sacks shall be laid with broken joints, in a regular pattern. The sacks shall be rammed or packed against each other so as to form a close and molded contact after the sand and cement mixture has set up. Sacks ripped or torn in placing shall be removed and replaced with sound, unbroken sacks. All sacks shall then be thoroughly saturated with water.
- D. **Grouting:** Immediately after watering, all openings between sacks shall be filled with dry grout composed of one part portland cement and five parts sand.
- E. **Toe Walls:** Toe walls of riprap for fill slopes may be constructed of poured-in-place concrete in lieu of sand-cement in sacks. If sand-cement in sacks is used for the toe walls, the entire trench excavated for the toe walls shall be filled with sand-cement in sacks.

3.02 RUBBLE RIPRAP (Rock RipRap)

- A. Rubble shall be dumped in place and arranged to form a compact layer conforming to the neat lines called for and to the specified thickness, plus or minus three inches. It shall be placed in such manner that the small pieces are not segregated but are evenly distributed and placed so that they fill the voids between the larger pieces.
- B. Bedding material will only be required if shown on the plan detail.

- C. Filter fabric shall be placed on the prepared surface prior to placement of rubble. The fabric shall be Mirafi 700X or as approved by the OWNER's representative and it shall be overlapped three feet at any seam or break in the fabric.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. The quantities of Sand-Cement Riprap to be paid for under this section shall be the volume in cubic yards of sand-cement bags satisfactorily placed according to the details in the plans, unless otherwise specified.
- B. Rubble Riprap shall be measured in square yards and satisfactorily placed according to the details in the plans.

When payment is by the ton, a certificate of scale weight shall be provided by a facility approved by the OWNER's representative. Only the rubble actually used shall be included in the quantity to be paid.

When payment is by the square yard, the area to be included for payment shall be the actual area satisfactorily completed according to the details in the plans or as otherwise authorized by the OWNER's representative. The dimensions used for payment purposes shall be measured parallel to the completed surface of riprap.

4.02 BASIS OF PAYMENT

- A. The quantities as determined according to the above shall be paid for at the contract unit price as established in the Contract Documents for RIPRAP (SAND-CEMENT) or RIPRAP (RUBBLE). This price and payment shall be full compensation for all the work specified in this section and shall include all materials, equipment, labor, and other incidental costs required to satisfactorily complete the work according to the details in the plans. The cost of excavation for the placement of riprap and backfilling and finish grading after placement shall also be included in the contract unit price for riprap.

END OF SECTION 02822

**SECTION 02910
LIMEROCK BASE COURSE AND STABILIZED SUBGRADE**

PART 1 GENERAL

1.01 SCOPE

- A. The scope of this Section consists of furnishing materials and methods for construction of a crushed limerock base course and stabilized subgrade in accordance with the Plans and Specifications.

1.02 SPECIFICATION AND STANDARDS REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc. are referenced, such references shall be latest edition.

PART 2 PRODUCTS

2.01 LIMEROCK BASE

- A. Material for limerock base shall meet the requirements of Section 911 of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, hereinafter referenced as FDOTSPEC.
- B. CONTRACTOR shall pay for and furnish samples of materials to the approved testing laboratory for physical and chemical analysis, together with optimum moisture and density relationships of the base material. Test reports and samples shall be required of every limerock supplier furnishing material for the work. The source or sources of materials proposed for use shall be designated and shall not change without written consent of the ENGINEER. During the course of construction, ENGINEER may require additional tests if any visible variation occurs.
- C. Limerock shall be obtained from pits from which all overburden has been removed, prior to blasting. It shall show no tendency to air slake or undergo chemical change under exposure to weather, Limerock-Miami (or Ocala) formations shall be tested to meet the following requirements:

	LIMEROCK BASE GRADE #1	LIMEROCK BASE GRADE #2
Minimum Limerock Bearing Ratio (LBR)	100	100
Maximum Liquid Limit	35	35
Maximum Plasticity Index	Non-plastic	10/less
Maximum Percent Clay	3/less	3/less

- D. Grade #1 Limerock as placed shall be well graded, crushed material from either Miami or Ocala formations with at least 97 percent (by weight) of the material passing a 3-½ inch sieve and shall be graded uniformly down to dust with the fines consisting entirely of dust of fracture. Grade #2 Limerock will conform to the above except that 97 percent shall pass a 1-½ inch sieve.

2.02 SUBGRADE STABILIZATION

- A. General: Materials to be used for stabilizing shall be commercial limerock, limerock overburden, crushed or local shell meeting the requirements of Section 914 of FDOTSPEC.
- B. Limerock and Limerock Overburden: For limerock and limerock overburden, the percentage of carbonates of calcium and magnesium shall be at least 70 percent and the plasticity index shall not exceed 10 percent. The gradation of both commercial limerock and limerock overburden shall be such that at least 95 percent (by weight) of the material will pass a 3 ½ inch sieve and not less than 10 percent (by weight) of the material will pass a No. 200 sieve and the material shall be graded uniformly down to dust.
- C. Crushed Shell: Crushed shell shall be mollusk shell (i.e., oysters, mussels, clams, cemented coquina, etc.). Steamed shell will not be permitted. Shell shall meet the following requirements:
 - 1. At least 95 percent (by weight) of the material shall pass a 3-½ inch sieve and at least 50 percent (by weight) of the total material shall be retained on the No. 4 sieve.
 - 2. Not more than 15 percent (by weight) of the total material shall pass the No. 200 sieve. The determination of the percentage passing the No. 200 sieve shall be made by washing the material over the sieve.
 - 3. In the event shell meets the above requirements without crushing, crushing will not be required.
- D. Local Shell: Local shell shall consist of a naturally occurring deposit which is essentially broken mollusk shell. The gradation of the shell shall be such that at least 95 percent (by weight) of the material will pass a 3-½ inch sieve and not more than 20 percent (by weight) of the material will pass a No. 200 sieve by washing. The portion of material passing the No. 40 sieve shall have a liquid limit not greater than 30 percent and a plasticity index not greater than 10 percent.

2.03 PRIME COAT MATERIALS

- A. Material used for prime coat shall meet the requirements of FDOTSPEC 300. CONTRACTOR may select any of the specified bituminous materials for use, unless the Plans or Specifications indicate use of a specific material. Types and grades of bituminous material other than those specified above may be allowed if it can be shown the alternate material will properly perform the function of prime coat material.

2.04 COVER MATERIAL FOR PRIME COAT

- A. If an emulsified asphalt is used for prime coats, the cover material shall consist of a sand-bituminous hot mix or screenings. Sand-bituminous hot mix shall contain from 2 to 4 percent Asphalt-Cement, viscosity Grade AC-20, and fine aggregate consisting of a clean sand or screenings. Sand shall contain no more than 10 percent (by weight) of material passing the No. 200 sieve. The gradation of screenings used along shall be such that 100 percent will pass the 3/8 inch sieve and not more than 10 percent will pass the No. 200 sieve.
- B. If material other than emulsified asphalt is used for the prime coat, cover material shall be either sand (bare or hot-asphalt coated) or screenings, at the CONTRACTOR's option. Sand shall be non-plastic and free from any appreciable amount of silt, clay balls and root particles, and from any noticeable sticks, trash, vegetation or other organic matter. Screenings shall be Miami Oolitic rock screenings.

2.05 TACK COAT

- A. Unless a specific type or grade of material is called for on the Plans or Specifications, material used for tack coat shall meet the requirements of FDOTSPEC 300.

PART 3 EXECUTION

3.01 CONSTRUCTION OF STABILIZED SUBGRADE

- A. Stabilized subgrade shall be constructed of roadbed soil and subgrade stabilization materials in conformance with the lines, grades, and cross-section shown on the Plans. Prior to beginning of stabilizing operations, the area to be stabilized shall have been completed to the lines shown on the Plans and to a grade parallel to finished elevation of the stabilized subgrade. Before stabilizing material is added, the elevation of the roadbed shall be such that subgrade shall conform to requirements of the typical cross-section when the work is completed.
- B. Stabilized Subgrade Minimum Bearing Value - Completed stabilized subgrade shall have minimum limerock bearing ratio value of 40 (LBR40) unless otherwise stated on the Plans or amended in the Specifications.
- C. Incorporation of Stabilizing Material and Mix-in
 1. Spreading and Mixing: Stabilizing material shall be placed on areas to be stabilized, and spread uniformly. Stabilizing material shall be thoroughly mixed with the soil with rotary tillers or other approved equipment which is capable of achieving a satisfactory blend. Mixing shall be done as soon as practical, but not later than one week after stabilizing material is placed on the road. The area to be stabilized shall be thoroughly mixed throughout the entire depth and width of the stabilized subgrade.

2. **Maximum Particle Size of Mixed Materials:** At the completion of mixing, all particles of materials within the limits of the stabilized sub-base shall pass a 3-½ inch ring. Any particles not meeting this requirement shall be removed or shall be broken down as to meet this requirement.
3. **Planting Mixing:** Mixing of the soil may be accomplished by the central plant-mix method in lieu of mixing in place, provided that a uniform mixture containing the proper amount of water is achieved.
4. **Depth of Mixing Stabilizing Materials:** Stabilizing material shall be mixed to the nominal depth of Stabilized Subgrade shown on the Plans. The following tolerances over or under the specified depth will be allowed:

<u>Plan Depth</u>	<u>Tolerance</u>
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8" or less	1"
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Over 8"	2"
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In the event the measured depth of mixing is less than the minimum specified above, CONTRACTOR shall remix the stabilized subgrade until stabilizing material is distributed throughout the subgrade course to the required depth. ENGINEER may waive the above requirements for remixing or addition of stabilizing material and remixing for Stabilized Subgrade which serves solely as a working platform for concrete paving equipment, if the subgrade as originally mixed is firm and substantially unyielding.

5. **Compacting**
 - a. After mixing operations have been completed and requirements for uniformity, mixing depth and maximum particle size have been satisfied, sub-base shall be shaped and compacted. Minimum density acceptable at any location within the entire limits of width and depth of the sub-base will be 98 percent of the maximum density as determined by AASHTO T-180.
 - b. In the event CONTRACTOR elects to shape and compact the subgrade that will be underlying curb and gutter separate from the rest of the subgrade, additional density testing along those curb and gutter lines will be required at a minimum frequency of 1 test per 500 lineal feet.
 - c. ENGINEER may waive the above density requirement for Stabilized Subgrade which serves solely as a working platform for concrete paving equipment, if the subgrade as compacted is firm, substantially unyielding, and no areas of excessive moisture are evident.

6. **Finish Grading:** Completed stabilized subgrade shall be shaped to conform with finished lines, grades and cross-sections indicated on the Plans. Sub-base shall be checked by the use of elevation stakes, or other means approved by the ENGINEER.
7. **Requirements for Condition of Stabilized Subgrade:** After stabilizing and compacting operations have been completed, subgrade shall be firm and substantially unyielding to the extent it will support construction equipment. All soft and yielding material, and any other portions of the subgrade which will not compact readily, shall be removed and replaced with suitable material and the whole subgrade brought to line and grade, with proper allowance for subsequent compaction.
8. **Maintenance of completed Stabilized Subgrade:** After stabilized subgrade has been completed as specified, CONTRACTOR shall maintain it free from ruts, depressions and any damage resulting from the hauling or handling of materials, equipment, tools, etc.
9. **Preparation of Subgrade**
 - a. **Embankment Subgrade Soil:** If the subgrade consists of embankment soil, CONTRACTOR before undertaking this work, shall shape and compact the subgrade to conform with the grade lines and cross-sections required for the completed work. Unless otherwise shown on the Plans, subgrade limits shall extend through the pavement area to one foot beyond the curb line or 6 feet beyond pavement edge where curbs are not employed. Unless otherwise shown on the plans, subgrade thickness shall be 12 inches.
 - b. **Undisturbed Subgrade Soil:** In-place soil under Group Classification A-4 through A-7, according to AASHTO's Soil Classification System, shall be removed and replaced unless ENGINEER directs it remain in place. Any replacement soil must be acceptable to the ENGINEER.

3.02 CONSTRUCTION OF LIMEROCK BASE

- A. Limerock (also referred to as "rock") base shall be constructed on the prepared subgrade in accordance with the Specifications and with lines, grades, and cross-sections shown on the Plans. Construction shall meet requirements of FDOTSPEC Section 200, Limerock Base.
- B. **Transporting Limerock:** Limerock shall be transported to the point where it is to be used, over rock previously placed if practical, and dumped on the end of the preceding spread. Hauling over the subgrade and dumping on the subgrade will be permitted when, in the ENGINEER's opinion, these operations will not be detrimental to the base.

C. Spreading Limerock

1. Method of Spreading: Limerock shall be spread uniformly. All segregated areas of fine or coarse rock shall be removed and replaced with properly graded rock.
2. Number of Courses: When the specified compacted thickness of the base is greater than 6 inches, base shall be constructed in two courses. The thickness of the first course shall be approximately one-half the total thickness of the finished base, or enough additional to bear the weight of the construction equipment without disturbing the subgrade.

D. Compacting and Finishing Base

1. Single-Course Base: For single-course base, after the spreading is completed, the entire surface shall be scarified, then shaped so as to produce the required grade and cross-section after compaction.
2. Double-Course Base: For double-course base, the first course shall be cleaned of foreign material, bladed and brought to a surface cross-section approximately parallel to that of the finished base. Prior to the spreading of any material for the upper course, density tests for the lower course shall be made and ENGINEER will determine that required compaction has been obtained. After spreading of the material for the second course is completed, its surface shall be finished and shaped so as to produce the required grade and cross-section after compaction, free of scabs and laminations.
3. Moisture Content: When material does not have proper moisture content to insure the required density, wetting or drying will be required. When water is added, it shall be uniformly mixed by disking to the full depth of the course which is being compacted. Wetting or drying operations shall involve manipulation, as a unit, of the entire width and depth of the course which is being compacted.
4. Density Requirements: As soon as proper conditions of moisture are attained, material shall be compacted to a density of not less than 98 percent of maximum density as determined by AASHTO T 180. Minimum density which will be acceptable at any location outside the traveled roadway (such as crossovers) shall be 95 percent of such maximum.

- E. Testing Frequency: At least three density determinations shall be made on each day's final compaction operation on each course, and a frequency of one test per 1000 square yards or fraction thereof of surface roadway with a minimum of three tests on each course or roadway section requiring a break in the rolling pattern. Additional tests or greater frequency may be deemed necessary by the ENGINEER.

- F. Checking: Prior to application of any bituminous materials, base shall be checked for grade, cross-section and thickness. Where excessive deviations occur, base shall be reworked by scarifying, adding additional materials, blading, rolling and re-bonding until such unsatisfactory condition is corrected. In general, deficiency in thickness shall be interpreted as anything in excess of 1/4 inch for the entire work or of 1/2 inch in isolated or limited areas. Deviations from straight edge laid parallel with the centerline, or from cross-section template, shall not be more than 1/16 inch per foot from point to point of contact. Deviations from grade shall not exceed .05 (five one hundredths) foot and in no case shall such deviation vary from one extreme to the other within less than 100 feet from low to high.

3.03 PRIMING

- A. Prime coat shall be applied only when the base meets specified density requirements and the moisture content in the top half of the base does not exceed 90 percent of the optimum moisture of the base material. At time of priming, base shall be firm, unyielding and in such condition that no undue distortion will occur.

3.04 MAINTAINING

- A. CONTRACTOR shall assure the true crown and template are maintained, with no rutting or other distortion, and the base meets all requirements at the time the surface course is applied.

3.05 CLEANING BASE AND PROTECTION OF ADJACENT WORK

- A. Before any bituminous material is applied, all loose material, dust, dirt, cakes clay and other foreign material which might prevent proper bonding with the existing surface, shall be removed for the full width of the application. Particular care shall be taken in cleaning the outer edges of the strip to be treated to insure the prime or tack coat will adhere.
- B. When the prime or tack coat is applied adjacent to curb and gutter, valley gutter or any other concrete surfaces, such concrete surfaces (except where they are to be covered with a bituminous wearing course) shall be covered with heavy paper or otherwise protected as approved by ENGINEER. Any bituminous material deposited on such concrete surfaces shall be removed.

3.06 WEATHER LIMITATION

- A. Prime and tack coats shall be applied when the air temperature, in the shade, is above 40EF, and when all other weather conditions and the condition of the surface are suitable.

3.07 APPLICATION OF PRIME COAT

- A. Rate of Application for Limerock, Limerock Stabilized, and Local Rock Bases: For these bases, rate of application shall be not less than 0.10 gallon per square yard, unless a lower rate is directed by ENGINEER.

- B. Sprinkling: If so required by ENGINEER, base shall be lightly sprinkled with water and rolled with a traffic roller in advance of the application of the prime.
- C. Partial Width of Application: If warranted by traffic conditions, ENGINEER may request that the application be made on only one-half the width of the base at one time, in which case positive means shall be used to secure the correct amount of bituminous material at the joint.

3.08 APPLICATION OF TACK COAT

- A. General: Where a bituminous surface is to be laid and a tack coat is required, tack coat shall be applied as specified herein below.
- B. Where Required: In general, a tack coat will not be required on primed bases except in areas that have become excessively dirty and cannot be cleaned, or in areas where the prime has cured to the extent that it has lost all bonding effect. Generally, a tack coat will be required on hot bituminous base courses before placing the surface course.
- C. Method of Application: Tack coat shall be applied with a pressure distributor except that, on small jobs, if approved by ENGINEER, application may be by other mechanical devices or by hand methods. The bituminous material shall be heated to a suitable temperature as designated by the ENGINEER and shall be applied in a thin, uniform layer.
- D. Rate of Application: Rate of application shall be between 0.02 and 0.08 gallon per square yard. For tack coat applied on concrete pavement which is to be surfaced, the rate of application may exceed the upper limit, if directed by ENGINEER.
- E. Curing and time of Application: Tack coat shall be applied sufficiently in advance of the laying of the bituminous mix to permit drying, but shall not be applied so far in advance that it might lose its adhesiveness as a result of being covered with dust or other foreign material.
- F. Protection: Tack coat surface shall be kept free from traffic until the subsequent layer of bituminous hot mix has been laid.

3.09 QUALITY CONTROL

- A. OWNER shall select and pay the Engineering Testing Laboratory for required testing in work performed under this Section. Should retesting be required because of failure to pass, CONTRACTOR shall pay for additional testing required until specification requirements are attained. CONTRACTOR shall either promptly reimburse the OWNER for said costs or shall have the amount deducted from the next month's pay request and all subsequent pay requests. In such case the OWNER shall promptly pay the Engineering Laboratory for all testing costs. CONTRACTOR is herein required to schedule and make test arrangements with the Test Laboratory for making the required tests. Test patterns and frequency will be at the direction of the ENGINEER. Frequency of tests shown below shall be considered a minimum.

1. Subgrade - Bearing: One Limerock Bearing Value (LBR) test for each 0-5000 square yards of subgrade plus one test for each additional 5000 square yards or fraction thereof, plus one LBR for each change of material. One subgrade in place density for each 0-1000 square yards of base and one test for each additional 1000 square yards or fraction thereof.
2. Base Course: One Limerock Base Course in place density for each 0-1000 square yards of base plus one test for each additional 1000 square yards or fraction thereof (AASHTO T 180).

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. Quantities to be paid for under this Section shall be the area, in square yards, of stabilized subgrade and crushed limerock base completed and accepted.
- B. In determining the area of base to be paid for, length to be used in the calculation shall be the actual length measured along the surface of the completed base. Width shall be the actual width of base constructed within lines shown on the Plans, not to exceed the width called for on the Plans.
- C. In determining the area of stabilized subgrade to be paid for, length to be used in the calculation shall be the actual length measured along the surface of the completed base. Width shall be actual width of stabilized subgrade that does not exceed the width called for on the Plans.

4.02 BASIS OF PAYMENT

- A. Payment shall be made on a unit price basis in accordance with the accepted Proposal. OWNER reserves the right to add or deduct from the Work. Such additions or deductions will be made at the unit prices established in the Proposal. Said additions or deductions shall not exceed twenty-five percent (25%) of the base bid of the successful BIDDER or BIDDERS without consideration of an adjustment in the unit price.
 1. Compacted Base: The quantity of base, determined as provided in Section 4.01 (B), shall be paid for at the contract unit price per square yard for this item. Such price and payment shall be full compensation for furnishing, hauling, spreading, compacting, and surface finishing the limerock material; furnishing and placing asphaltic prime coat materials on the road, removing same, if necessary, and incidental items shown on the Plans, all performed in a workmanlike manner in accordance with the Plans and Specifications. No separate payment shall be made for bituminous material, sand or earth applied as a curing agent.

2. **Stabilized Subgrade:** The quantity of stabilized subgrade determined as provided in Section 4.01 (C), shall be paid for at the contract unit price per square yard for this item. Such price and payment shall be full compensation for furnishing, hauling, spreading, mixing, compacting, and finishing the subgrade material, and incidental items shown on the Plans, all performed in a workmanlike manner in accordance with the Plans and Specifications.

END OF SECTION 02910

**SECTION 02911
ASPHALTIC CONCRETE**

PART 1 GENERAL

1.01 SCOPE

- A. The work consists of the application of hot bituminous mixtures of the type and thickness specified on the construction plans which shall be composed of a mixture of:
 - 1. Aggregate.
 - 2. Mineral filler, if necessary to produce the desired stability hereinafter described; and
 - 3. Asphalt cement.
- B. The application of hot bituminous mixtures shall be properly placed upon a prepared base of the type called for on the construction plans in accordance with lines, grades, thickness, and typical section(s) shown including the conditioning of existing surface or base.

PART 2 PRODUCTS

2.01 ASPHALT MIXES

- A. Except for friction courses and base courses, the hot bituminous mixture shall be of the type called for on the construction plans and shall conform to hot mix design criteria as outlined in the latest edition of the Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

2.02 FRICTION COURSE

- A. The asphaltic concrete friction course shall be in accordance with Section 337, Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, latest edition.

PART 3 EXECUTION

3.01 APPLICATION OF ASPHALT MIXES

- A. Limitation of Operations
 - 1. The mixture shall be spread only when the air temperature (in the shade) is above 40° Fahrenheit and rising.
 - 2. The temperature of the mixture at the time of spreading shall be within 25° Fahrenheit of the temperature set by the ENGINEER for this stage of the

operation. The temperatures thus set by the ENGINEER shall be between 250° Fahrenheit and 340° Fahrenheit.

3. Any mixture caught in transit by a sudden rain may be laid only at the CONTRACTOR's risk. Should such mixture prove unsatisfactory, it shall be removed and replaced with satisfactory mixture at the CONTRACTOR's expense. In no case shall the mixture be laid while rain is falling or when there is water on the surface to be covered.

B. Joints

1. Transverse joints: Placing of the mixture shall be as continuous as possible and the roller shall not pass over the unprotected end of the freshly laid mixture except when the laying operation is to be discontinued long enough to permit the mixture to become chilled. When the laying operation is thus interrupted, or laying operation is to commence from a cold joint, a transverse joint shall be construction by cutting back on the previous run to expose the full depth of the mat.
2. Longitudinal joints: Where only a portion of the width of pavements is to be laid, the exposed edge shall be vertical. If traffic has rolled over the edge the ENGINEER may require the rolled edge trimmed back to a vertical face prior to construction the adjacent strip.
3. General: When the fresh mixture is laid against the exposed edges of joints (trimmed or formed) it shall be placed on close contact with the exposed edge so that an even, well compacted joint will be produced after rolling without having an open joint or unlevel surface condition.
4. Layered placement of hot bituminous mixture shall be accomplished to cause longitudinal joints to be offset 6 to 12 inches laterally between successive layers.

C. Finished Surface Requirements

1. For the purpose of testing the finished surface, the CONTRACTOR shall provide a 15-foot straight edge and a standard template cut to the true cross-section of the road. These shall be available at all times during construction so that the ENGINEER may check the finished surface. The CONTRACTOR shall provide and designate some employee whose duty it is to use the straight edge and template in checking all rolled surface under the direction of the ENGINEER. Vertical measurements from a string line between curbs to determine crown may be accepted as an alternate. The finished surface shall be such that it will not vary more than one-fourth inch from the 15-foot straight edge. Any irregularity of the surface exceeding the above limits shall be corrected.
2. The CONTRACTOR shall be responsible for obtaining a smooth surface on all pavement courses placed. The finished surface shall be of uniform thickness texture and compaction. The surface shall have no pulled, torn,

loosened portions and shall be free of segregation, sand streaks, sand spots, ripples or roller marks, depressions that show up after initial rolling, and roller depressions. Any area of the surface which does not meet the foregoing requirements shall be corrected at the CONTRACTOR's expense.

3. Correction of unacceptable pavement or portion thereof shall be determined in one of the following methods, only if approved by the ENGINEER:
 - a. Remove and replace - if correction is made by removing and replacing the pavement, the removal must be for the full depth of the course and extend at least 50 feet on either side of the defective area, for the full width of the paving lane.
 - b. Overlaying - if correction is made by overlaying, the overlay shall cover the length of the defective area and taper uniformly to a feather edge thickness at a minimum distance of 50 feet on either side of the defective area and for the entire width of roadway.

D. Compaction

1. The complete pavement will be accepted with respect to in-place density when the following criteria has been met:
 - a. Ninety-five percent of laboratory density (FM 1-T166) has been achieved.
 - b. Laboratory density (FM-T166) will be determined from a sample of the hot mix obtained in the field.
 - c. In-place density will be determined from field cores obtained during thickness evaluation.

E. Tests (Allowable Deficiencies - Thickness)

1. The average thickness of the compaction in-place mixture shall be determined as shown on the construction plans typical cross-section(s) for that particular roadway(s) to be constructed. The pavement shall not be approved or accepted unless the following criteria has been met:
 - a. The compacted in-place pavement has not exceeded a deficiency of $\frac{1}{4}$ inch in thickness as determined by the measured depths of two-inch diameter cores taken at random at a rate of one every 500 SY.
 - b. Not more than 20 percent of the total cores taken for than roadway (thickness and type) shall be deficient with no individual core exceeding the $\frac{1}{4}$ -inch tolerance. Roadway pavement indicating an average thickness of $1-\frac{1}{4}$ inch shall not have an individual core of less than one-inch in-place thickness.

- c. Core lengths shall not exceed the average pavement thickness by more than three-eighths inch and shall be calculated as the next lower thickness.
 - d. All testing required such as mixture, density, cores, etc. shall be the responsibility of the CONTRACTOR with the testing performed by an independent testing laboratory, testing results submitted to and approved by the ENGINEER.
- F. Care to be Exercised
- 1. The CONTRACTOR shall use extreme care when applying prime coats, tack coats or laying the asphaltic concrete to insure the materials being applied do not come in contact with surface of adjacent structures such as but not limited to curb, inlets, etc., other than those surfaces designed for contact. Any material allowed to come in contact with surfaces other than those scheduled shall be cleaned by any method acceptable to the ENGINEER that does not destroy the function or aesthetic value of the structure. Any surface after cleaning that remains objectionable to the ENGINEER may result in removing and replacing the objectionable section. All removal, replacement or attempts to clean surfaces shall be at the CONTRACTOR's expense.
 - 2. The CONTRACTOR shall use extreme care in using equipment adjacent to structures such as, but not limited to curbs, inlets, etc. to prevent damage to those structures such as roller scars, grader scars, etc. The ENGINEER may direct removal and replacement of those objectionable surfaces that have in his opinion destroyed the functional or aesthetic value of the structure. Cost of removal and replacement shall be at the CONTRACTOR's expense.

PART 4 MEASUREMENT AND PAYMENT

4.01 METHOD OF MEASUREMENT

- A. The quantity to be paid for under this section shall be the number of square yards of asphaltic surface and/or friction course actually completed and accepted, for the various types required by the approved plans.
- B. In determining the quantity of asphaltic concrete surface and/or friction course, the length to be used in the calculation shall be the actual length measured along the surface of the pavement and the width as specified by the approved plans.

4.02 BASIS OF PAYMENT

- A. The quantity of asphaltic concrete surface and/or friction course shall be paid for at the contract unit price per square yard for the various types required by the approved plans.

- B. The above price and payment shall be full compensation for all the work specified in this section and shall include all materials, equipment, tools, labor, testing laboratory, and incidentals necessary to complete the work.

END OF SECTION 02911

SECTION 02912
BASE COURSE, PRIME AND TACK COAT, AND STABILIZED SUBGRADE

PART 1 GENERAL

1.01 SCOPE

- A. The soil-cement base course work specified in this section consists of construction of a base course composed of soil and Portland cement uniformly mixed, moistened, compacted, finished and cured in accordance with these specifications, and shall conform to the lines, grades, thicknesses and typical cross-sections shown on the plans. The base shall be designed to have a seven-day in-situ compressive strength of 250 psi minimum. Seven-day laboratory design compressive strength shall be a minimum of 300 psi.
- B. The shell base course work specified in this section consists of construction of a base course composed of shell. It shall be constructed on the prepared subbase in accordance with these specifications and in conformity with the lines, grades, notes and typical cross-sections shown on the plans. Where so shown on the plans, the base shall be constructed in two courses. Where the plans do not specify double-course base, the base may be constructed in either one or two courses.
- C. The prime and tack coat work consists of applying bituminous materials on a previously prepared base in accordance with these specifications and in conformity with the lines, grades, dimensions and notes shown on the plans.
- D. The stabilized subgrade work shall consist of bringing the bottom of excavations and top of embankments of the roadway between the outer limits of the paving or base course to a surface conforming to the grades, lines and cross-sections shown on the plans, and to a uniform density.
- E. The base material must meet the requirements of the local transportation entity or it will not be considered.
- F. The base material specified on the drawings shall be the basis for the bid.

PART 2 PRODUCTS

2.01 SOIL CEMENT BASE

- G. Portland cement shall comply with the latest specifications for Portland cement, AASHTO M-85, AASHTO M-134 or ASTM C-150 for the type specified. A one-cubic-foot sack of Portland cement shall be considered to weight 94 pounds. The amount of cement used shall be sufficient to obtain the required compressive strength, however, under no circumstances shall the amount be more than 9 percent by weight. No minimum cement content is required.
- H. Water for use with cement shall be clean and free of substances deleterious to the hardening of the soil-cement.

I. The soil to be used for the base course shall consist of bank-run shell, limerock, crushed portland cement concrete, approved borrow material or a combination of these materials proportioned as approved by the laboratory. The soil shall be free of organic debris, trash, roots or any other substance considered deleterious to the hardening of the soil-cement. Proposed recycled materials will be considered on a case-by-case basis.

1. Specific requirements for soil

Limerock Bearing RatioMinimum 100 (per FM S-515)

Plastic IndexMaximum 10 percent (per FM 1-T090)

Liquid IndexMaximum 25 percent (per FM 1-T089)

Gradation:	Sieve Size	Minimum % Passing
	2 - inch	100 percent
	#4	55 percent
	10	37 percent

J. Soil cement for base construction shall have a LBR value of not less than 100. One LBR test shall be required from the source of the soil cement base material.

K. The CONTRACTOR shall submit for approval a design mix for the soil proposed for use in soil-cement construction prepared by an independent testing laboratory approved by the ENGINEER. The design mix submittal shall include the results of tests run to verify that the soil meets the material requirements. Results of test used to establish the cement content, and a final design laboratory sample shall also be submitted. Laboratory testing for design mix evaluation shall be accomplished using water from the source proposed for use during construction. The design mix shall be submitted to the Engineer for approval a minimum of 15 calendar days prior to beginning of soil-cement construction. The minimum cement content shall be determined by Florida Test Method FM 5-520-Laboratory Design of Soil-Cement Mixtures. The soil material, used in producing a soil-cement mixture, shall be obtained from a commercial source where soil properties are consistently uniform, and the mixture shall be processed in a central mix plant that automatically weighs components and automatically records the weight of each component on a printed ticket or tape. Mixed in place soil cement will not be authorized.

2.02 SHELL BASE

The materials shall not contain excessive amounts of sand and fine particles to prevent proper bonding.

At least 97 percent of the material shall pass a 3½-inch sieve. Not less than ten percent nor more than 20 percent of the material shall pass the Number 200 sieve by washing.

The portion of the material passing the Number 40 sieve shall be non-plastic.

Shell for base construction shall have an LBR value of not less than 100. One LBR test shall be taken per each 1,500 SY area. Each source of shell base materials must be specifically approved for usage.

Each deposit proposed for use shall be inspected by the ENGINEER prior to use. Acceptance or rejection will be made on production of a uniform material consistently meeting this specification. The ENGINEER may require a certified copy of current Florida Department of Transportation (FDOT) quality assurance for each source.

2.03 CRUSHED CONCRETE BASE

Crushed concrete conforming to the gradation and other requirements of Section 204-2 of the most recent FDOT Standard Specifications for Road and Bridge Construction.

2.04 PRIME AND TACK COAT

For the prime and tack coat, any one of the following types or grades of prime and tack materials may be used at the option of the CONTRACTOR unless a particular type and grade are called for on the plans.

1. Prime Coat
 - a. Cutback Asphalt, Grade RC-70 or RC-250.
 - b. Emulsified Asphalt, Grade RS-2, SS-1, SS-1H or Special MS.
2. Tack Coat
 - a. Emulsified Asphalt, Grade S, RS-2, AE-90, SS-1, SS-1H or Special MS.

PART 3 EXECUTION

3.01 CONSTRUCTION OF SOIL CEMENT BASE

A. Equipment

3. For performing the work specified in this section, the CONTRACTOR may use any machine, combination of machines or equipment that will produce the completed soil-cement base course meeting the requirements for soil pulverization, cement application, mixing, water application, incorporation of materials, compaction, finishing and curing as controlled by these specifications. Special attention is directed to the necessity for utilizing compaction equipment which will produce the required density in a particular soil-cement blend.

B. Preparation

1. Before other construction operations are begun, the areas to be paved shall be graded and shaped as required to construct the soil-cement base in conformance with the grades, lines, thicknesses and typical cross-sections shown on the plans. Any additional soil needed shall be placed as directed by the ENGINEER. The subgrade shall be firm and able to support without displacement the construction equipment and compaction hereinafter specified. Any unsuitable soil or materials, including material retained on a three-inch sieve, shall be removed and replaced with acceptable material. Soft or yielding subgrade shall be corrected and made stable before construction proceeds.

2. The subgrade in both cuts and fills shall be compacted to density of 98 percent of the maximum density as determined by AASHTO T-180 (modified). The subgrade shall be shaped prior to making the density tests. Subgrade LBR shall be as shown on the construction plans. Test results of subgrade density and LBR shall be provided to the ENGINEER for review prior to the construction of the base material.

C. Plant Mix

1. A plant mixture of soil-cement material shall be utilized. The plant should demonstrate the ability to properly proportion the cement to obtain a uniform mix, meeting all specifications.

D. Compaction

1. Prior to the beginning of compaction the mixture shall be in a loose condition for its full depth and shall be within approximately two percent of the optimum moisture. The loose mixture shall be uniformly compacted to the specified density within three hours. During compaction operations, shaping may be required to obtain uniform compaction and required grade and cross-section. No soil cement shall be applied when the soil or subgrade is frozen. The air temperature shall be at least 40° Fahrenheit in the shade and rising, or over 50° Fahrenheit.

E. Finishing

1. After the mixture has been compacted, the surface of the soil-cement shall be shaped, if necessary, to the required lines, grades and cross-section. During shaping operations, the surface shall be lightly scarified to loosen any imprints left by the compacting or shaping equipment. The resulting surface shall then be compacted to the specified density with steel-wheel or pneumatic tire rollers, or both. Rolling shall be supplemented by broom-dragging as required. Surface compaction and finishing shall be done in such a manner as to produce, in not longer than three hours, a smooth, dense surface, free of surface compaction planes, cracks, ridges or loose materials.

F. Uniformity

1. Any portion of the soil-cement that has a density less than 95 percent of the maximum density, determined as specified, shall be corrected by additional rolling. If the time limits set forth herein have been exceeded, the base shall be left undisturbed and shall be tested (after seven days of curing) to determine its suitability. If it is found unsuitable, it shall be removed and replaced by the CONTRACTOR without additional compensation. The CONTRACTOR may, at his option, remove and replace the deficient base rather than wait for the results of the seven-day test.

G. Construction Joints

1. At the end of each day's construction, a straight transverse construction joint shall be formed by cutting back into the completed work to form a true vertical face. The construction joint thus formed shall be located so as to exclude all of that part of the base at the end of the run from being considered a part of the finished base if it does

not have full depth, is not thoroughly compacted, is not properly proportioned, or is not properly mixed.

H. Curing

1. After the soil-cement base has been finished as specified herein, it shall be protected against drying for seven days, as specified herein. The finished soil-cement base shall be maintained in a moist condition by application of water until the curing material is applied. The curing material shall not be applied until the finished soil-cement base has been inspected by the ENGINEER and such inspection has determined that the base material is hardening in a uniform and satisfactory manner. The bituminous material and construction shall be in accordance with the specifications for Prime and Tack Coat for base courses. The actual rate of application shall be sufficient to provide complete coverage without excessive runoff. At the time the bituminous material is applied, the soil-cement surface shall be dense, free of all loose and extraneous material and shall contain sufficient moisture to permit penetration of the bituminous material. Water shall be applied in sufficient quantity to fill the surface voids of the soil-cement immediately before the bituminous curing material is applied.

I. Opening to Traffic

1. After the seven-day curing period, the completed portion may be open to all traffic, provided the soil-cement is either protected or has hardened sufficiently to prevent marring or distorting of the surface by the equipment or traffic, and provided the curing as specified is not impaired.
 - a. The curing material shall be adequately maintained during the seven-day protection period so that all of the soil-cement will be covered effectively during this period.
 - b. Finished portions of soil-cement that are used by equipment during the construction of an adjoining section shall be protected in such a manner as to prevent the equipment from marring or damaging the completed work.
 - c. When the air temperature may be expected to reach the freezing point, sufficient protection from freezing shall be given the soil-cement for seven days after its construction and until it has hardened. Other curing materials such as moist earth, straw or hay may be used upon approval.

J. Maintenance

1. The CONTRACTOR shall maintain the base to a true and satisfactory surface until the wearing surface is constructed. Should any repairs of patching be necessary, they shall extend to the full depth of the base and shall be made in a manner that will assure restoration of a uniform base course conforming to the requirements of these specifications. In no case shall repairs be made by adding a thin layer of soil-cement to the completed work. The CONTRACTOR may, at his option, make full-depth repairs with concrete to small or minor areas such as manholes, inlets or the like.

K. Testing

1. Tests are a necessary part of soil-cement base construction. The following tests will be made by the laboratory:
 - a. Determinations of Cement Applied
 - b. Field Density - Tests shall be taken per each 500 SY maximum area or per each 500 feet per lane, whichever is less.
 - c. Moisture-Density Test
 - d. Bag Samples - Bag samples shall be taken at least once daily at intervals not to exceed 5,000 SY and molded in the laboratory at field moisture content based on standard proctor density test (AASHTO T-99). Each specimen shall be four inches in diameter and six inches in height. The specimens shall be cured for seven days and tested for compressive strength. The bag samples shall have a minimum strength of 250 psi.
 - e. Six-Inch Diameter Cores - For each day's placement of base material, field cores of six inch diameter shall be taken after seven days curing time at intervals of one every 500 SY or at intervals closer if necessary to isolate areas showing below minimum requirements. The cores shall be used to determine thickness of base and compression tested to determine strength of base material. The cores shall have an average compressive strength of 250 psi. The minimum compressive strength core break shall be 200 psi. Cores with less than 200 psi shall require the CONTRACTOR to isolate the area of base with additional cores and compressive tests for determining limits of the unacceptable base. That portion determined unacceptable shall be removed and replaced with new material, retested after seven days as outlined above. Where the base is more than one-half inch deficient in thickness, the area covered by this deficient base shall be replaced. The one-half inch deficiency may be accepted only if found in minor isolated areas. Additional cores will be required to determine size of deficient area.
 - f. Test Results - After receipt of the test reports from the laboratory stating that there is a satisfactory soil-cement base, the ENGINEER may allow the wearing surface to be placed.
 - g. All tests shall be performed by a testing laboratory, approved by the ENGINEER. The testing laboratory shall be under the direction of a Professional Engineer with at least five years of materials testing experience. All tests shall be performed at the CONTRACTOR's expense.

L. Grade Stakes

1. The CONTRACTOR shall make every effort to preserve the grade stakes until the job is completed. Destroyed or moved stakes shall be replaced at the CONTRACTOR's expense.

3.02 CONSTRUCTION OF SHELL BASE

A. Equipment

1. This work may be performed with any machine, combination of machine or equipment that will produce the specified results.

B. Transporting Shell

1. The shell shall be transported (over material previously spread) to the point where it is to be used. It shall then be dumped on the end of the preceding spread. In no case shall material be dumped directly on the subbase.

C. Spreading Shell

1. The shell shall be spread uniformly. All segregated areas of fine or coarse material shall be removed and replaced with well graded shell. For double-course base, the material shall be spread in two courses. The thickness of the first course shall be approximately one-half the total thickness of the finished base, or enough additional to bear the weight of the construction equipment without disturbing the subbase.

D. Compacting and Finishing Base

1. For double-course base, the first course shall be bladed if necessary to secure a uniform surface and shall be compacted to the density specified below immediately prior to spreading the second course. No other finishing of this course is required.
 - a. After spreading 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 bases, this scarifying shall extend to a depth sufficient to penetrate slightly the surface of the first course.
 - b. As soon as proper conditions of moisture are attained, the material shall be compacted to a density of 98 percent of the maximum density obtainable under AASHTO Method T-180 (modified). Where the base is being constructed in one course and the specified thickness is more than six inches, the density specified above shall be obtained in both the bottom half and the top half of the base. 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 determinations on the finished base.
 - c. The surface shall be "hard-planed" with a blade grader immediately prior to the application of the prime coat to remove the tin-glazed or cemented surface, leaving a granular or porous condition that will allow free penetration of the prime material. The materials planed from the base shall be removed from the base area.
 - d. If, at any time, the subbase material should become mixed with the base course material, the CONTRACTOR shall excavate and remove the mixture. He shall reshape and compact the subgrade, and replace the materials removed with

clean base material. The clean base material shall then be shaped and compacted as specified above.

E. Testing Surface

1. The finished surface of the base course shall be checked with a templet cut to the required cross-section and with a 15 foot straight edge laid parallel to the centerline of the road or other approved testing devices. All irregularities greater than $\pm 1/4$ inch shall be corrected by scarifying and removing or adding rock, as may be required, after which the entire areas shall be recompactd as specified herein. On every project at least one of each of the following density tests shall be made by the laboratory at intervals not exceeding 500 SY unless otherwise specified.
 - a. Modified Proctor Maximum Density Determination Tests. Tests shall be taken per each 500 SY maximum area.
 - b. Field In-Place Density Tests.

F. Thickness

1. After the base is completed, test holes shall be dug or cores taken at intervals of not more than 500 SY, or at closer intervals if necessary. Where the base is deficient in thickness, the area covered by this deficient base shall be reworked by scarifying to a depth of at least three inches and adding more base material, so that after proper compacting the thickness will conform to the plans.

All tests shall be performed by an independent testing laboratory, approved by the ENGINEER. The testing laboratory shall be under the direction of a Professional Engineer with at least five years of materials testing experience.

G. Grade Stakes

4. The CONTRACTOR shall make every effort to preserve the grade stakes until the job is completed. Destroyed or moved stakes shall be replaced at the CONTRACTOR's expense.

3.03 CONSTRUCTION OF CRUSHED CONCRETE BASE

A. Equipment

1. This work may be performed with any machine, combination of machine or equipment that will produce the specified results.

B. Transporting Crushed Concrete

1. The crushed concrete shall be transported (over material previously spread) to the point where it is to be used. It shall then be dumped on the end of the preceding spread. In no case shall material be dumped directly on the subbase.

C. Spreading Crushed Concrete

1. The crushed concrete shall be spread uniformly. All segregated areas of fine or coarse material shall be removed and replaced with well graded material. For double-course base, the material shall be spread in two courses. The thickness of the first course shall be approximately one-half the total thickness of the finished base, or enough additional to bear the weight of the construction equipment without disturbing the subbase.

D. Compacting and Finishing Base

1. For double-course base, the first course shall be bladed if necessary to secure a uniform surface and shall be compacted to the density specified below immediately prior to spreading the second course. No other finishing of this course is required.
 - a. After spreading 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 bases, this scarifying shall extend to a depth sufficient to penetrate slightly the surface of the first course.
 - b. As soon as proper conditions of moisture are attained, the material shall be compacted to a density of 98 percent of the maximum density obtainable under AASHTO Method T-180 (modified). Where the base is being constructed in one course and the specified thickness is more than six inches, the density specified above shall be obtained in both the bottom half and the top half of the base. 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 determinations on the finished base.
 - c. The surface shall be "hard-planed" with a blade grader immediately prior to the application of the prime coat to remove the tin-glazed or cemented surface, leaving a granular or porous condition that will allow free penetration of the prime material. The materials planed from the base shall be removed from the base area.
 - d. If, at any time, the subbase material should become mixed with the base course material, the CONTRACTOR shall excavate and remove the mixture. He shall reshape and compact the subgrade, and replace the materials removed with clean base material. The clean base material shall then be shaped and compacted as specified above.

E. Testing Surface

1. The finished surface of the base course shall be checked with a templet cut to the required cross-section and with a 15 foot straight edge laid parallel to the centerline of the road or other approved testing devices. All irregularities greater than $\pm 1/4$ inch shall be corrected by scarifying and removing or adding rock, as may be required, after which the entire areas shall be recompacted as specified herein. On every project at least one of each of the following density tests shall be made by the laboratory at intervals not exceeding 500 SY unless otherwise specified.

- a. Modified Proctor Maximum Density Determination Tests. Tests shall be taken per each 500 SY maximum area.
- b. Field In-Place Density Tests.

F. Thickness

- 1. After the base is completed, test holes shall be dug or cores taken at intervals of not more than 500 SY, or at closer intervals if necessary. Where the base is deficient in thickness, the area covered by this deficient base shall be reworked by scarifying to a depth of at least three inches and adding more base material, so that after proper compacting the thickness will conform to the plans.

All tests shall be performed by an independent testing laboratory, approved by the ENGINEER. The testing laboratory shall be under the direction of a Professional Engineer with at least five years of materials testing experience.

G. Grade Stakes

- 1. The CONTRACTOR shall make every effort to preserve the grade stakes until the job is completed. Destroyed or moved stakes shall be replaced at the CONTRACTOR's expense.

3.04 APPLICATION OF PRIME AND TACK COAT

A. Equipment

- 1. This work may be performed with any machines, combination of machines, or equipment that will produce the specified results.

B. Cleaning the Base

- 1. Before any bituminous material is applied, all loose material, dust, caked clay and foreign materials which might prevent proper bond with existing surface shall be moved to the shoulders. Particular care shall be taken to clean the outer edges of the strip to be treated in order to insure that the tack coat will adhere. Where the prime or tack coat is applied adjacent to the curb and gutter or valley gutter, such concrete surfaces are to be protected and kept free of bituminous material.

C. Weather Limitations

- 1. No bituminous material shall be applied when the temperature of the air is less than 40° Fahrenheit in the shade, or when the weather conditions or the condition of the existing surface is unsuitable.

D. Application of Prime Coat

- 1. The surface to be primed shall be clean and contain optimum moisture. The temperature of the prime material shall be between 100° and 150° Fahrenheit. The exact temperature shall be such as will insure uniform distribution. The material shall be applied by means of a pressure distributor.

The amount of bituminous material applied shall be at the rate of approximately 0.10 to 0.25 gallons per square yard, dependent upon the type of base materials. The rate of application shall be sufficient so as to coat the surface thoroughly and uniformly without having any excess to form pools or to flow off the base. A light, uniform application of clean sand shall be applied prior to opening the primed base to traffic. To cure the prime coat in such cases, the sand shall be rolled with a traffic roller in conjunction with traffic. If warranted by traffic conditions, the application shall be made only on one-half of the width of the base at one time, care being taken to secure the correct amount of bituminous material at the joint. The base shall be sufficiently moist in order to obtain maximum penetration of the asphalt.

E. Application of Tack Coat

1. Where a bituminous surface is to be laid and a tack coat is required, both shall be applied as herein specified. On newly constructed base courses, the application of the tack coat (when one is required) shall follow the application of the prime coat, immediately before the wearing surface is applied. In general, a tack coat will not be required on primed bases, except in areas which have become excessively dirty and cannot be cleaned, or in areas where the prime has cured and lost bonding effect. The tack coat shall be applied with a pressure distributor. The bituminous material shall be heated to a suitable consistency as designated. The bituminous material shall be applied only in the amount necessary to bond the wearing surface to the base. The rate of application shall be between 0.02 and 0.08 gallons per square yard. The exact rate shall be designated by the ENGINEER. The tack coat shall be applied sufficiently in advance of the wearing surface to permit drying. However, it shall not be applied so far in advance or over such an area as to lose its adhesiveness as a result of being covered with dust or other foreign material. The tack coat shall be kept free from traffic until the wearing surface is laid.

3.05 PREPARATION OF STABILIZED SUBGRADE

A. Subbase

1. The work shall consist of bringing the bottom of excavations and the top of embankments of the roadway to a surface conforming to the grades, lines and cross sections shown on the plans.

All soft and yielding material and other portions of the subgrade which will not compact readily shall be removed and replaced with suitable material and the whole subbase brought to line and grade, allowing for subsequent compaction.

- a. All submerged stumps, roots or other organic matter encountered in the preparation of the subbase shall be removed.
- b. The subbase shall be stabilized to the minimum Bearing Ratio and depth shown on the plans. LBR tests shall be taken per each 1,500 SY area or per each 1,500 feet of roadway, whichever is less. If the natural in-place soils do not meet the required stability, sufficient borrow material for stabilization shall be uniformly mixed with in-place soils to produce the load Bearing Ratio. Material used for stabilization must be specifically approved for usage. Borrow material shall be included in the cost of subbase bid item.

- c. The stabilized subbase in both cuts and fills shall be compacted to a density as determined by AASHTO T-180 (modified). The subbase shall be shaped prior to making the density tests.
- d. The subbase shall be firm and able to support the construction equipment without displacement. The minimum density acceptable at any location will be 98 percent of the maximum density as determined by AASHTO T-180 (modified). Load Bearing Ratio determinations shall be made by the Limerock Bearing Ratio Method, Test Method D of AASHTO T-180 as modified by the Florida Department of Transportation's Research Bulletin 22-B, revised April, 1972. Soft or yielding subgrade shall be corrected and made stable before construction proceeds.
- e. Density tests shall be made before work proceeds.
- f. The required density shall be maintained until the base of pavement has been laid or until the aggregate materials for the base of pavement course have been spread in place.
- g. After the subbase has been prepared, and immediately before any base material is placed, the subbase shall be tested for substantial compliance as to crown and elevation. Material shall be removed or added, as the condition necessitates, and again stabilized and compacted to bring all portions of the subbase to the specified elevation, stability and density.

PART 4 MEASUREMENT AND PAYMENT

4.01 SOIL-CEMENT BASE

A. Method of Measurement

- 1. The quantity to be paid for under this section shall be the number of square yards of soil-cement base course actually completed and accepted. In determining the quantity of soil-cement base course, the length to be used in the calculations shall be the actual length measures along the surface of the base and the width shall be the width of the base actually constructed, both within the neat lines shown on the plans.

B. Basis of Payment

- 1. This work shall be paid for at the contract unit price per square yard of completed and accepted soil-cement base course. The contract unit price shall be full payment for furnishing all materials, equipment tools, labor, testing and incidentals necessary to complete the work and for carrying out the maintenance provisions in this specification.
- 2. Any additional earth required for the base course in accordance with Paragraph 3.01, B.1 herein, will be paid for at the contract unit price per cubic yard for excavation.
- 3. No allowance shall be made for any materials used or work done outside the lines established by the ENGINEER.

4.02 SHELL BASE

A. Method of Measurement

1. The quantity to be paid for under this section shall be the number of square yards of base acceptably completed. The length to be used in the calculation shall be the actual length measured along the surface of the completed base, and the width of the base actually constructed, both within the neat lines shown on the plans.

B. Basis of Payment

1. The quantity determined as provided above shall be paid for at the contract unit price per square yard for base, complete, in place and accepted. Such price and payment shall be full compensation for performing and completing all the work described in this section and shall include furnishing all materials, equipment, tools, labor, testing and incidentals necessary to complete the work.

4.03 CRUSHED CONCRETE BASE

A. Method of Measurement

1. The quantity to be paid for under this section shall be the number of square yards of base acceptably completed. The length to be used in the calculation shall be the actual length measured along the surface of the completed base, and the width of the base actually constructed, both within the neat lines shown on the plans.

B. Basis of Payment

1. The quantity determined as provided above shall be paid for at the contract unit price per square yard for base, complete, in place and accepted. Such price and payment shall be full compensation for performing and completing all the work described in this section and shall include furnishing all materials, equipment, tools, labor, testing and incidentals necessary to complete the work.

4.04 PRIME AND TACK COAT

A. Method of Measurement

1. The quantity to be paid for under this section shall be the number of square yards of prime or tack coat actually completed and accepted.
2. In determining the quantity of prime or tack coat, the length to be used in the calculation shall be the actual length measured along the surface of the pavement and the width shall be the width of pavement actually constructed, both within the neat lines shown on the plans.

B. Basis for Payment

1. The quantity of prime or tack coat determined, as provided in Paragraph A above, shall be paid for at the contract unit price per square yard for this item.

2. When no separate bid item for prime is provided in the proposal, the prime coat shall not be paid for directly, and the cost shall be included in the contract unit price for the base course on which it is applied.
3. When no separate bid item for tack coat is provided in the proposal, the tack coat shall not be paid for directly, and the cost shall be included in the contract unit price for the pavement to be laid over the tack coat.
4. The prices and payments provided for herein shall be full compensation for all materials (including sand covering where required) for heating, hauling and applying, and for all equipment, tools, labor and incidentals necessary to complete the work covered by this section.

4.05 STABILIZED SUBGRADE

A. Method of Measurement

1. The quantity to be paid for under this section shall be the number of square yards of subgrade acceptably completed. The length to be used in the calculation shall be the actual length measured along the surface of the completed subgrade, and the width of the subgrade actually constructed, both within the neat lines shown on the plans.

B. Basis of Payment

1. The quantity determined as provided above shall be paid for at the contract unit price per square yard for subgrade, complete, in place and accepted. Such price and payment shall be full compensation for performing and completing all the work described in this section and shall include furnishing all materials, equipment, tools, labor, testing and incidentals necessary to complete the work.

END OF SECTION 02912

**SECTION 02924
PAVEMENT MARKING, STRIPING, AND SIGNS**

PART 1 GENERAL

1.01 SCOPE

- A. This section specifies pavement traffic painting, marking, striping, and signing shown on the plans or called for in the specifications. In general, all pavement traffic painting, marking, striping, and signing shall comply with the Florida Department of Transportation Standard Specifications for Road and Bridge Construction, hereafter referenced "FDOTSPEC" and the Manual on Uniform Traffic Control Devices, U.S. Department of Transportation, Federal Highway Administration, hereafter referenced as "MUTCD" and the Florida Department of Transportation Roadway and Traffic Design Standards, hereafter referenced by index number.

1.02 SPECIFICATION AND STANDARDS REFERENCE

- A. Where supplementary specifications or standards such as ASTM, AWWA, AASHTO, etc., are referenced, such references shall be the latest edition.

PART 2 PRODUCTS

2.01 SIGN PANELS AND POSTS

- A. Sign panels shall be aluminum. All signposts shall be steel flanged channel installed in accordance with FDOT index number 11865.

2.02 SIGN BLANKS AND FACES

- A. Regulatory and Warning signs as defined in the MUTCD shall be "High Intensity" reflectorized grade.
- B. Street name and guide signs as defined in the MUTCD shall be "Standard reflectorized grade."
- C. CONTRACTOR shall submit documentation from the sign suppliers which identifies the reflector grade of each sign. All materials shall meet the requirements of FDOTSPEC.

2.03 SIGN HARDWARE

- A. Signs shall be attached to posts in accordance with FDOT index number 11865.

2.04 PAVEMENT STRIPING AND PAINTING

- A. Thermoplastic Striping and Marking - Thermoplastic pavement striping shall be reflective and meet the requirements of FDOTSPEC, Section 711.

- B. Painted Striping and Marking - Painted striping shall be reflectorized and meet the requirements of FDOTSPEC, Section 710.

2.05 REFLECTIVE PAVEMENT MARKERS

- A. Reflective pavement markers and their installation shall meet the requirements of FDOTSPEC, Section 706.

PART 3 EXECUTION

Not Used

PART 4 MEASUREMENT AND PAYMENT

4.01 BASIS OF PAYMENT

- A. Payment for pavement marking, striping, and signing shall be on a lump sum basis in accordance with the accepted proposal. Such payment shall constitute full compensation for furnishing all labor, materials, and equipment necessary to complete the construction on accordance with the plans and specifications.

END OF SECTION 02924

**ADDENDUM TO AGREEMENT BETWEEN
NORTH RIVER RANCH COMMUNITY DEVELOPMENT DISTRICT AND CONTRACTOR**

This Addendum to Agreement Between North River Ranch Community Development District and Contractor, (the "Addendum"), is made and entered into as of the 12th day of May, 2021 by and between the **North River Ranch Community Development District**, a local unit of special-purpose government established pursuant to Chapter 190, Florida Statutes, (hereinafter, "District"); and Ripa & Associates, LLC

(hereinafter, the "Contractor").

WITNESSETH

WHEREAS, District and Contractor are parties to that certain contract, proposal and/or agreement, (collectively the "Agreement"), of even date herewith for construction, work, professional and/or related services, (collectively the "Work"), to be performed on lands owned and/or operated and maintained by the District, (the "Agreement"); and,

WHEREAS, Florida law requires specific contractual provisions apply to all Community Development Districts pursuant to Chapter 190, Florida Statutes; and,

WHEREAS, the parties desire for this Addendum to amend, modify, supplement and clarify the Agreement, such that the Agreement shall fully comply with the provisions of this Addendum, Chapter 190, Florida Statutes and other provisions of law pertaining to public bodies.

NOW THEREFORE, in consideration of the mutual covenants set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. All payments pursuant to the Agreement, including any dispute regarding any payment or other monies owed to Contractor by District, shall be governed by the "Local Government Prompt Payment Act," Chapter 218, Florida Statutes.

2. Contractor shall obtain, and thereafter at all times during the performance of the Work described in the Agreement, maintain a performance bond and a labor and material payment bond, as applicable, each in form and substance satisfactory to District. Such bonds shall comply with Section 255.05, Florida Statutes.

3. Contractor shall observe and abide by and perform all of its obligations hereunder and all other activities in connection with the Work and project contemplated by the Agreement in accordance with all applicable laws, rules and regulations of all governmental authorities having jurisdiction, including the District's Resolutions, Rules and Regulations.

4. To the fullest extent permitted by law, and to the extent claims, damages, losses or expenses are not covered by insurance maintained by Contractor in accordance with the Agreement, Contractor hereby assumes entire responsibility and liability for any and all damage or injury of any kind or nature whatsoever (including death resulting therefrom) to all persons, whether employees of Contractor or its subcontractors, or otherwise, and to all property (real and personal), caused by, resulting from, arising out of or occurring in any manner whatsoever in connection with the execution of the Work and/or performance of the Agreement. Contractor agrees to indemnify and save harmless District, its officers, Supervisors, agents, servants and employees from and against any and all such claims, losses, costs, expenses, liability, damages and/or injuries, including reasonable legal fees, that District, its officers, Supervisors, agents, servants or employees may directly or indirectly sustain, suffer or incur as a result thereof. Nothing herein shall be construed as or constitute a waiver of District's limitations on liability contained in Section 768.28, Florida Statutes, or other statute or law. The District shall have the right to withhold from any payments due or to become due to Contractor an amount sufficient in its judgment to protect and indemnify District, its officers, Supervisors, agents, servants and employees from and against any and all such claims, including legal fees and disbursements, or District in its discretion, may require Contractor to furnish a surety bond satisfactory to District guaranteeing such protection, which bond shall be furnished by Contractor within five (5) days after written demand has been made therefore.

5. The Contractor shall prepare and maintain complete records and comprehensive books relating to the Work and/or any other services performed on lands within and/or controlled by the District, (the "Records"), which Records shall be maintained by the Contractor for a period of at least five (5) years after the expiration of the Agreement;

and, copies of all Records shall be timely given to the District upon request. The Records shall include, but not be limited to, documents and other information pertaining to all costs associated with the project and Work contemplated by the Agreement. The District, and/or its duly authorized representative, shall have the right to audit such Records at reasonable times upon prior notice to Contractor, and Contractor shall be required to prepare and maintain all Records on a basis of generally accepted accounting principles. If an audit reveals overcharges that exceed the total amount due Contractor under the Agreement, Contractor will reimburse District for the cost of the audit and pay 2.5 times the amount of the overcharges as liquidated damages.

6. The Contractor agrees and understands that District is a special purpose unit of local government and as such is subject to Chapter 119, Florida Statutes. Contractor agrees and covenants to fully cooperate with District, to District's full satisfaction, in responding to requests for public records pursuant to Chapter 119, Florida Statutes, as same pertain to the Records, the Work and the Agreement. Contractor further agrees and understands that the Records, Work and Agreement are public records, and Contractor shall fully comply with Florida law, and specifically the provisions of Chapter 119 Florida Statutes, as it pertains to same.

7. Contractor covenants, warrants and agrees that all work products of Contractor, Contractor's employees, suppliers and subcontractors, including drawings, designs, plans, reports, manuals, programs, tapes, electronic data and any other material prepared by Contractor or its employees, suppliers and subcontractors under the Agreement, including the Records, shall belong exclusively to, and may be used by, the District, free and clear of all liens and other encumbrances.

8. In addition to the terms of this Addendum, the Agreement shall be further subject to the "Terms and Conditions to CDD Addendum," attached hereto as Exhibit "A." and incorporated herein.

9. The parties agree that the Agreement shall be controlled and governed by the laws of the State of Florida, with venue situate in Manatee County, Florida.

10. The Agreement, Addendum and Terms and Conditions to CDD Addendum constitute the entire agreement between the parties hereto with respect to the matters hereby. All prior negotiations, representations and agreements, whether oral or written, with respect hereto not incorporated herein are hereby cancelled, terminated and void. The Agreement can be modified or amended only by a written document duly executed on behalf of both parties hereto.

11. If any term of the Agreement, Addendum or Terms and Conditions to CDD Addendum is invalid or unenforceable under any statute, regulation, ordinance, executive order or other rule of law, such term shall be deemed reformed or deleted, but only to the extent necessary to comply with such statute, regulation, ordinance, order or rule and the remaining provisions of the Agreement, Addendum and Terms and Conditions to CDD Addendum shall remain in full force and effect.

12. The Agreement, Addendum and Terms and Conditions to CDD Addendum shall constitute one complete document and shall be referred to collectively as the "Agreement"; provided however, and notwithstanding anything to the contrary herein, in the event of any conflict between the terms of this Addendum [which specifically includes by incorporation the Terms and Conditions to CDD Addendum] and the terms of the Agreement, the terms of this Addendum shall at all times govern, control and prevail.

IN WITNESS WHEREOF, this Addendum is hereby executed as of the date first above set forth.

Contractor:

Ripa & Associates, LLC

By: _____

Name: Chris LaFace

Title: President

District:

North River Ranch Community Development District

By: _____

Name: _____

Chairperson/Vice Chairperson of the Board of Supervisors

EXHIBIT "A"

TERMS AND CONDITIONS TO CDD ADDENDUM

SECTION 1. WORK

The Contractor shall complete all Work as specified or indicated in the Agreement in a timely and professional manner; in accordance with all laws, rules and regulations of any governmental body with jurisdiction thereto; and in accordance with any and all schedules or other time frames for completion of the Work set forth in the Agreement. TIME IS OF THE ESSENCE FOR COMPLETION OF THE WORK.

SECTION 2. DISTRICT ENGINEER AS REPRESENTATIVE

District Engineer will act as the representative for the District to review and inspect the Work. District Engineer shall at all times have access to review all plans, specifications, permits, approvals and all other matters of and associated with Contractor's Work and completion thereof.

SECTION 3. AUDIT

Contractor shall check all materials and labor entering into the Work and shall keep such full and detailed accounts as may be necessary to determine the Cost of the Work. District shall have access to the Work at all reasonable times and the right to audit all Contractor's books, records, correspondence, instructions, drawings, receipts, vouchers and memoranda, relating to the Work, and Contractor shall preserve such records for a period of not less than five (5) years after final payment.

SECTION 4. PAYMENTS

- A. All payments pursuant to the Agreement, including any dispute regarding any payment or other monies owed to Contractor by District, shall be governed by the "Local Government Prompt Payment Act," Chapter 218, Florida Statutes.
- B. Retainage: Five percent (5%) shall be retained from each payment made by District to Contractor until the Work has been fully completed in accordance with the Agreement and all provisions related to the Work have been fulfilled, as confirmed in writing by the District's Representative, and all provisions related to the Agreement have been fulfilled, as confirmed by the District's Board of Supervisors in writing; provided however, if District Engineer is a party to the Agreement, then District shall appoint an independent District Representative.
- C. Any provision hereof to the contrary notwithstanding, District shall not be obligated to make any payment to Contractor hereunder if Contractor has failed to perform its Work and any other obligations hereunder or otherwise is in default under the Agreement, (as amended, supplemented and modified by the Addendum and this Terms and Conditions to CDD Addendum).
- D. As a condition precedent to each payment under the Agreement, Contractor shall furnish to District a partial waiver and release of lien, in a form satisfactory to the District, from all subcontractors, materialmen and other parties furnishing labor, materials, or both in the performance of the Work. The Contractor agrees, and this Agreement is based upon the expressed condition, that no liens or rights in rem shall so lie or attach, and the Contractor shall indemnify and hold District harmless from and against such liens, claims, rights and any and all expenses incurred by the Contractor or District in discharging them.
- E. As conditions precedent to any final payment under the Agreement, Contractor shall: (i) execute and deliver a final affidavit, waiver and release of all claims and liens Contractor may have against the District and the land and improvements upon which the Work is located; (ii) furnish written release and waivers of all rights to claim or file liens properly executed by any and all subcontractors, materialmen, suppliers, laborers, vendors or others furnishing work, labor, materials, machinery or fixtures in the performance of the Work in a form satisfactory to the District; (iii) furnish any manufacturers' guarantees or warranties for materials provided or equipment installed in the Work; (iv) have done and performed all other things required of it pursuant to the Agreement; (v) furnish District with the Certificate of Use or Occupancy, as the case may be (if applicable); (vi) warrant all workmanship as outlined in **Exhibit A-1**, attached; and (vii) deliver to the District a set of "as built" drawings and plans, (if applicable), reflecting all changes, modifications and additions thereto which occurred during performance of the Work. Acceptance of any Work or any possession taken by District shall not operate as a waiver of any provision

of the Agreement or any right or power therein reserved to District including any right to damages provided therein at law or in equity.

SECTION 5. INSURANCE

During the entire term of this Agreement and any extensions thereof, Contractor shall obtain and maintain, at Contractor's expense, the insurances required herein, which insurance shall be kept in full force and effect until acceptance of the Work by District. Before proceeding with any Work, Contractor shall furnish to District and District's Representative, and any governmental agency designated by District, an original certificate of insurance or proof of insurance in a form reasonably acceptable to District.

The District shall be named as additional insured on all insurance policies required with the exception of worker's compensation and employer's liability insurance. All required insurance policies, except workers' compensation and employers' liability, shall be endorsed to be primary and non-contributory to any insurance otherwise carried by Contractor and District with respect to the Work. Such insurance shall not be modified, permitted to lapse, or canceled without written notice to District from such insurance companies, mailed to District, with copies to District's Representative, via Registered Mail thirty (30) days in advance of such modification, expiration, or cancellation. In the event of such cancellation notice, Contractor, at Contractor's expense, shall obtain replacement insurance coverage from other insurance companies prior to the cancellation of the original insurance coverage.

Insurance Coverage	Limits
a) Worker's Compensation	As required by Florida law.
b) Employers Liability	\$1,000,000 per occurrence.
c) Comprehensive General Liability (Occurrence Form) Including but not limited to: Premises, operations and elevators. Independent Contractors. Broad form property damage. Personal Injury. Blanket contractual liability. Blanket fire and explosion legal liability. Explosion, collapse and underground hazard included. Products liability. Completed operations coverage for 3 years after completion and acceptance of the Work.	\$1,000,000 combined single limit bodily injury and property damage per occurrence and project specific aggregate.
d) Automobile Liability	\$1,000,000 combined single limit bodily injury and property damage per occurrence. If Contractor, or any subcontractor, is a transporter of hazardous materials, such transporter's Automobile Liability policy shall have all pollution exclusions deleted.

If Contractor subcontracts any of the Work, Contractor shall require each subcontractor to have the insurance coverage required by this Section or such other amount as agreed to by District and Contractor. Contractor shall furnish District evidence thereof before each subcontractor commences any of the Work. Contractor's obtaining of the insurance required by this Section shall in no manner lessen, diminish or affect Contractor's obligations set forth in any provisions of the Agreement. Contractor shall also carry such additional insurance as may be required by any law. All insurance policies required of Contractor and subcontractors shall contain a waiver of subrogation clause wherein no insurance company shall have any right of recovery against District.

All insurance required in this section shall be provided by financially responsible insurance carriers authorized or eligible to do business in the state of Florida and rated by A.M. Best Rating Service as A- or better.



District and Contractor acknowledge that the insurance requirements set forth in the Agreement may be required to be varied by District's insurance carrier and Contractor agrees to enter into suitable modifications of the provisions hereof upon the request of the District, provided District bears any additional cost occasioned thereby.

SECTION 6. INDEPENDENT CONTRACTOR

The Work shall be performed by Contractor as an independent contractor at its sole risk, cost and expense. District shall have the right to insist that all the provisions and requirements of the Agreement are carried out by Contractor.

SECTION 7. WAIVER

No consent or waiver, express or implied, by either party to this Agreement of any breach or default by the other in the performance of any obligations hereunder shall be deemed or construed to be a consent or waiver to or of any other breach or default by such party hereunder. Unless the Agreement specifies a time period for notice of a particular claim, failure on the part of any party hereto to complain of any act or failure to act of the other party or to declare the other party in default hereunder, irrespective of how long such failure continues, shall not constitute waiver of the rights of such party hereunder. Notwithstanding anything to the contrary in the Agreement, inspection or failure of District to perform any inspection hereunder, shall not release Contractor of any of its obligations hereunder.

SECTION 8. PROTECTION OF WORK

- A. Contractor shall protect and prevent damage to all finished and unfinished portions of the Work, including but not limited to the protection thereof from damage by the elements, theft or vandalism. Restoration of such damage shall be the sole responsibility of Contractor and shall not be cause for an increase in amounts owed Contractor pursuant to the Agreement.
- B. If any property upon which the Work is completed or accessed in order to complete the Work, to include without limitation streams, waterways, existing trees and wetlands, are damaged to any extent by Contractor or its subcontractor(s), agents and/or assigns, then the Contractor shall repair and restore the property to the condition which exists on the date hereof. Such repair or restoration shall be the sole responsibility of Contractor and shall not be cause for an increase in amounts owed Contractor pursuant to the Agreement.

SECTION 9. COMPLIANCE WITH LAWS

Contractor shall observe and abide by and perform all of its obligations hereunder and all other activities in connection with the Work in accordance with all applicable laws, rules and regulations of all governmental authorities having jurisdiction, including the District.

SECTION 10. PERMITS AND LICENSES

- A. Contractor shall pay all taxes, including sales taxes, unless otherwise stated herein. Contractor shall obtain and pay for all construction permits and licenses, and all contributions imposed or required by any law for any employment insurance, pensions, age-related retirement funds, or similar purposes.
- B. Contractor accepts liability for all taxes and contributions required of it and its subcontractors by the Federal Social Security Act and the unemployment compensation law or any similar law of any state.

SECTION 11. TERMINATION

- A. District may immediately terminate the Agreement in the event of the happening of any of the following or any other comparable event: (a) insolvency of the Contractor, (b) filing of a voluntary petition in bankruptcy against Contractor, (c) filing of any involuntary petition in bankruptcy against Contractor, (d) appointment of a receiver or trustee for Contractor, (e) execution of an assignment, (f) failure of Contractor to commence the Work in accordance with the provisions of this Agreement, (g) failure of Contractor to prosecute the Work to completion thereof in a diligent, efficient, workmanlike, skillful and careful manner and in accordance with provisions of this Agreement, (h) failure of Contractor to use an adequate amount or quality of personnel or equipment to complete the Work without delay, (i) failure of Contractor to perform any of its obligations under this Agreement, or if Contractor otherwise repudiates or breaches any of the terms of this Agreement, including Contractor's warranties.
- B. District shall have the right to terminate this Agreement for any reason whatsoever at any time by giving Contractor thirty (30) days written notice thereof. Upon receipt of such notice, Contractor immediately shall



terminate performance of the Work and make every reasonable effort to mitigate its losses and damages hereunder; provided, however, in connection with such termination, Contractor shall perform such acts as may be necessary to preserve and protect that part of the Work theretofore performed hereunder. Upon such termination, District shall pay to Contractor a sum of money equal to the cost of all Work properly performed (accepted and approved by District and District's Representatives) hereunder by Contractor for which payments have not theretofore been made hereunder, and District shall assume the obligations of Contractor under all its subcontracts and purchase orders covering the unperformed parts of the Work. In the event of such termination, the Contractor shall not be entitled to anticipated profits on any Work not yet performed; and the Agreement shall become terminated and of no further force nor effect; provided however, and notwithstanding anything to the contrary, all warranties of Contractor for Work completed prior to the termination of the Agreement shall continue in full force and effect and shall survive termination of the Agreement.

SECTION 12. ATTORNEY'S FEE'S

In the event of any action or proceeding between Contractor and District to enforce any provision of this Agreement, the losing party shall pay to the prevailing party all costs and expenses, including without limitation, reasonable attorneys' fees and expenses, incurred in such action or proceeding and in any appeal in connection by such prevailing party. This Section is intended to be severable from the other provisions of this Agreement, and the prevailing party's rights under this Section shall not merge into any judgment and any judgment shall survive until all such fees and costs have been paid.

SECTION 13. SPECIAL CONDITIONS

1. Contractor is to provide weekly progress reports delivered to the District's Representative by 3:00 pm, Friday for the current week of Work.
2. Contractor shall coordinate all inspections required by governmental agencies and the District's Representative. All construction methods, materials, and testing shall comply with Manatee County, Florida, standards.
3. The Contractor acknowledges that the District is exempt from the Florida Sales and Use Tax (the "Sales Tax"). Accordingly, to minimize the cost of the Work to the District, the Contractor agrees to cooperate with the District and to allow the District, at its option, to purchase materials in its name in order to avoid the Sales Tax that would otherwise be due on such purchases. All savings realized by the District as a result of such direct purchases shall inure to the benefit of the District only.

E-Verify. The Contractor shall comply with and perform all applicable provisions of Section 448.095, *Florida Statutes*. Accordingly, beginning January 1, 2021, to the extent required by Florida Statute, Contractor shall register with and use the United States Department of Homeland Security's E-Verify system to verify the work authorization status of all newly hired employees. The District may terminate this Agreement immediately for cause if there is a good faith belief that the Contractor has knowingly violated Section 448.091, Florida Statutes.

If the Contractor anticipates entering into agreements with a subcontractor for the Work, Contractor will not enter into the subcontractor agreement without first receiving an affidavit from the subcontractor regarding compliance with Section 448.095, *Florida Statutes*, and stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. Contractor shall maintain a copy of such affidavit for the duration of the agreement and provide a copy to the District upon request.

In the event that the District has a good faith belief that a subcontractor has knowingly violated Section 448.095, *Florida Statutes*, but the Contractor has otherwise complied with its obligations hereunder, the District shall promptly notify the Contractor. The Contractor agrees to immediately terminate the agreement with the subcontractor upon notice from the District. Further, absent such notification from the District, the Contractor or any subcontractor who has a good faith belief that a person or entity with which it is contracting has knowingly violated s. 448.09(1), Florida Statutes, shall promptly terminate its agreement with such person or entity.

By entering into this Agreement, the Contractor represents that no public employer has terminated a contract with the Contractor under Section 448.095(2)(c), *Florida Statutes*, within the year immediately preceding the date of this Agreement.

EXHIBIT A-1

CONTRACTOR (OR SUBCONTRACTOR) WARRANTY-GUARANTEE

For purposes of this Exhibit A-1, when this form is used to provide subcontractor's warranty-guarantee, the term "Contractor" shall apply to the subcontractor.

WARRANTY GUARANTEE

("Contractor" or "Subcontractor") Ripa & Associates, LLC does hereby warrant and guarantee the Work in its entirety as defined in the Agreement dated May, 2021 shall be free and clear from defects for a period of one (1) year from the date of inspection and acceptance by the District or the District's Representative, (the "Guarantee Period").

Contractor agrees to repair or replace to the satisfaction of the District's Representative any or all Work that may prove defective in workmanship or materials within the Guarantee Period.

If Contractor fails to comply with the above-mentioned conditions within a reasonable time after being notified, Contractor hereby authorizes the District to proceed to have defects repaired and made good at Contractor's sole cost and expense, and Contractor shall pay the costs and charges therefore immediately upon demand to the District.

The warranty-guarantee rights afforded the District herein shall be in addition to all other rights afforded the District at law and equity, and shall in no way restrict, limit or impair those additional rights of the District.

CONTRACTOR (OR SUBCONTRACTOR):

RIPA & ASSOCIATES, LLC

(Name)

By:



Title:

Chris LaFace, President

Date:

April 29th

, 2021

**North River Ranch
Community Development District**

Review and Consideration of RIPA &
Associates, Phase IV-A

NORTH RIVER RANCH PHASE IV-A

Bid Summary

STREETS AND DRAINAGE:	\$ 5,962,126.65
MISCELLANEOUS:	\$ 243,000.00
SANITARY SEWER COLLECTION SYSTEM:	\$ 1,644,369.56
WATER DISTRIBUTION SYSTEM:	\$ 624,555.00
RECLAIMED WATER DISTRIBUTION SYSTEM:	\$ 418,843.07
TOTAL:	\$ 8,892,894.28
TOTAL DAYS TO (SUBSTANTIAL / FINAL) COMPLETION:	226 / 261 calender days

The principle items of work and quantities shown herein are approximate only and are furnished solely for the purpose of showing the approximate scope of work to be performed. The Contractor shall examine the site of the work and shall inform himself fully in regard to all conditions pertaining to the place where the work is to be done. It is the Contractor's responsibility to perform his own quantity take-off and shall submit his bid showing the items of all work, unit prices and lump sum price for all work called for in the plans, specifications and contract documents based on his assessment of the work to be performed. No claim shall be made against Clearview Land Design P.L., nor the Owner for any errors or omissions in the Contractor's items of work and quantities, and the unit prices shall only be used as a basis of payment to items specifically added or deleted upon change order approved by Owner and Clearview Land Design P.L. and as a basis for computing partial pay estimates when called for in the contract.

NOTE: Unit prices for all underground construction shall include all costs necessary to comply with the "**TRENCH SAFETY ACT**" and conform with all Occupational Safety and Health Administration (OSHA) regulations.

Contractor's Name: (Typed or Printed) _____ Address: _____

By _____
(Signature)

Title: _____ Telephone No.: _____

Job No. _____

File Name P:\Company\Engineering Documents & Programs\Hillsborough County\Quantities

Date: _____

KM/ _____

NORTH RIVER RANCH PHASE IV-A

Bid Summary

STREETS AND DRAINAGE:	\$ 7,234,542.15
MISCELLANEOUS:	\$ 243,000.00
SANITARY SEWER COLLECTION SYSTEM:	\$ 1,517,675.25
WATER DISTRIBUTION SYSTEM:	\$ 536,815.65
RECLAIMED WATER DISTRIBUTION SYSTEM:	\$ 367,966.75
FINAL CONTRACT ADJUSTMENTS:	\$ (1,007,105.52)
TOTAL:	\$ 8,892,894.28
TOTAL DAYS TO (SUBSTANTIAL / FINAL) COMPLETION:	226 / 261 calender days

The principle items of work and quantities shown herein are approximate only and are furnished solely for the purpose of showing the approximate scope of work to be performed. The Contractor shall examine the site of the work and shall inform himself fully in regard to all conditions pertaining to the place where the work is to be done. It is the Contractor's responsibility to perform his own quantity take-off and shall submit his bid showing the items of all work, unit prices and lump sum price for all work called for in the plans, specifications and contract documents based on his assessment of the work to be performed. No claim shall be made against Clearview Land Design P.L., nor the Owner for any errors or omissions in the Contractor's items of work and quantities, and the unit prices shall only be used as a basis of payment to items specifically added or deleted upon change order approved by Owner and Clearview Land Design P.L. and as a basis for computing partial pay estimates when called for in the contract.

NOTE: Unit prices for all underground construction shall include all costs necessary to comply with the "**TRENCH SAFETY ACT**" and conform with all Occupational Safety and Health Administration (OSHA) regulations.

Contractor's Name: (Typed or Printed) _____ Address: _____

By _____
(Signature)

Title: _____ Telephone No.: _____

Job No. _____
 File Name P:\Company\Engineering Documents & Programs\Hillsborough County\Quantities
 Date: _____
 KM/ _____

**North River Ranch
Community Development District**

Review and Consideration of Booth Design
Group Agreement



BOOTH DESIGN GROUP

landscape architecture • planning • urban design

146 Second Street North, Ste. 302 St. Petersburg, FL 33701

PH. 727-821-5699

PROFESSIONAL SERVICES AGREEMENT

To: North River Ranch CDD
c/o Tom Panaseny
5800 Lakewood Ranch Blvd. N
Sarasota, FL 34240

Re: Professional Services
North River Ranch
Main Amenity Design

Date: April 29, 2021

PROJECT DESCRIPTION:

Professional services related to the preparation of hardscape, landscape and irrigation design specification for the neighborhood amenity at North River Ranch in Manatee County (see exhibit A).

SCOPE OF WORK:

Booth Design Group, Inc. will provide to **Neal Land Ventures** (Client) design development specifications, construction documents, details and estimates for the following:

- Evaluation of the proposed development requirements set forth by the county
- Development of concept drawings for the pools and surrounding amenities program
- Development of parking and pedestrian sequencing
- Camping layout
- Fitness building landscape design
- Wood boardwalk between building
- Sports court areas located north of the main amenity site (layout, design of shade and associated facilities. Lighting coordination)
- Signage implementation
- Coordination with all proposed construction and utilities
- Coordination and design of site grading plan with relation to proposed walks and features
- Hardscape paving materials and details
- Vegetative buffers and pond planting
- Site landscape and irrigation design and observation
- Feature lighting design
- Coordination with pump park
- Feature multi-level amenity pool space with large 5,000 s.f pool and water slide component and access tower to slides. Pool engineering (Kimes Engineering) under BDG umbrella
- Evaluation of preferred amenity conceptual layout(s) compared to current client programming and county requirements.
- Pedestrian connections from walkways to trailways within NRR
- Outdoor amenities associated with the amenity including but not limited to: seating with possible fire pit, lawn games, amphitheater, events lawn, dog park, camping and other amenities.
- Site plan evaluation from civil/architect building placements.



SCOPE OF SERVICE:

Task 1: Assimilation of Data

- 1.1 Review of proposed engineering plans; review of pertinent codes and restrictions; review of surrounding land use impacts; review of site-specific requirements; conference with client and others appropriate to receive information to develop/verify the project program and schedule
- 1.2 Prepare base plans from client-provided electronic media in AutoCAD format
- 1.3 Coordinate and follow agreed upon design schedule
- 1.4 Site visit to evaluate and catalogue existing conditions of the area
- 1.5 Biweekly video conference coordination calls (10)

Task 2: Schematic Design (30% Documents)

- 2.1 Provide the Client with concepts and supporting graphics to convey design intent for pool and amenities surrounding the building architecture. Prepare concepts for trail connection to community
- 2.2 Prepare refined rendered design based on comments from client
- 2.3 Preparation of a preliminary opinion of probable construction (landscape and hardscape) costs that coincide with preferred option.
- 2.4 Attend one (1) design review meeting with Client to present concepts

Task 3: Design Development (60% Documents)

- 3.1 Preparation of CADD drawings depicting general layout of selected plan at design development level for hardscape elements; general landscape plans; general lighting selection; critical dimensions of design elements; material types for landscape and hardscape elements; coordination with Client for preparation of a preliminary opinion of probable construction cost.
- 3.2 Review of utility comments for design elements; coordinate irrigation and lighting sleeves. 3.3 Collaboration with design team members; coordination with client sub-consultants
- 3.4 One (1) review with Client and delivery of three (3) sets of documents
- 3.5 Attend one (1) design review meeting with required permitting agency; delivery of documents for review if needed.
- 3.6 Prepare (1) sleeving drawing for coordination with civil engineer including water source requirements and point of connection details
- 3.7 Irrigation head layout, mainline location, controls and three (3) coordination meetings/conference calls.
- 3.8 Provide estimate of probable costs for landscape and irrigation

Task 4: Construction Documents

- 4.1 Prepare revisions to documents and costs based on comments from Client and agency; prepare final plans and materials selection for scope-related hardscape elements; prepare landscape materials index, including quality, size and quantity; prepare final irrigation drawings including: pipe sizing, zoning, final controls, details, automatic valve design, specifications (irrigation and landscape); and notes, final layout plans for landscape elements; prepare sheet specifications; and prepare details for scope-related elements final layout plans for landscape and hardscape elements; prepare sheet specifications assist with specialty pavement details; final accent lighting. locations and specifications (electrical engineering and permit by others); and prepare details for scope-related elements
- 4.2 Prepare final Opinion of Probable Construction Costs with Client and Design Team
- 4.3 Verify documents for compliance with pertinent permitting agency requirements and construction regulations
- 4.4 Prepare technical specifications for scope-related items
- 4.5 Perform one (1) presentation for Client



- 4.6 Deliver full size 100% Final Construction Documents in electronic and hardcopy format to Client and electronic format to Design Team
- 4.7 Attend five in person (5) meetings to review construction design progress with minor revisions to plans.

Task 5: Bid Documents (if/as required)

- 5.1 Prepare Bid tabulation quantities of landscape and irrigation related features
- 5.2 Attend/facilitate one (1) pre-bid meeting
- 5.3 Prepare required Addenda
- 5.4 Review of CM pricing if project is negotiated and attend one meeting to review and award contract.

Task 6: Professional Observation

- 6.1 Attend up to two (2) project meetings related to specific Scope of Service; review Contractor Change Orders and Pay Requests
- 6.2 Attend up to two (2) landscape inspections during construction; one (1) inspection and report upon substantial completion; one (1) inspection for final approval after completion items have been made
- 6.3 Attend up to six (6) irrigation inspections during construction; one (1) irrigation inspection and one (1) inspection report upon substantial completion and (4) four final walk and acceptance. No irrigation inspections after final acceptance are included in the proposal. Six (6) irrigation pay application review and approval

Task 7: Pool Engineering

7.1 Preparing draft plans for the new POOL (approx. 5,000 SF) with a slide feature, beach entry and sun shelves. The plans suitable for bid, permitting and construction. The pool plans will be compliant with the 2020 FBC 7th Ed Section 454.1, and the State Commercial Pool Code, Rule 64E-9, F.A.C. The plans will include the hydraulic components of the slide feature what the slide product and structure will be the responsibility of others. Following construction, we can conduct a final inspection in support of preparing the operating applications for the Health Department.

BUDGET: The aforementioned plans and specifications shall reflect a construction budget as set forth by the Client within 5%.

FEE: Booth Design Group agrees to provide the services described herein for a fee of **\$51,538.00**.

Task 1:	\$ 1,650.00
Task 2:	\$ 4,575.00
Task 3:	\$ 9,868.00
Task 4:	\$ 13,975.00
Task 5:	\$ 1,375.00
Task 6:	\$ 4,835.00
Task 7:	\$15,260.00 Included but Optional Service

*Structural Fees Estimate: \$1,600.00

Note: Consultant fee does not include structural engineering for any required monuments, walls and related hardscape elements. Final fee shall be based on the amount of structure to be designed at a rate of \$300.00 per structural design feature (walls and columns, etc).

OFFICE/PRODUCTION REIMBURSABLE EXPENSES:



Office Reimbursable items shall be invoiced at cost plus 5%. e.g., blueprinting, mailing, Xeroxing, graphic reproduction, plotting service costs. Please see Article 2 of the General Terms and Conditions of this Agreement for Additional Charges. Estimated \$650.00

TRAVEL REIMBURSABLE EXPENSES:

Mileage shall be invoiced at \$.58/mile. Please see Article 2 of the General Terms and Conditions of this Agreement for Additional Charges. Estimated \$1,450.00

STRUCTURAL DESIGN:

Structural design for all proposed hardscape/signage items needing signed and sealed professional engineering shall be performed by others.

GENERAL TERMS AND CONDITIONS:

Article 1.Payment. Consultant shall invoice Client for the work complete; invoices are due and payable within thirty (30) days of the date of the invoice. Client shall notify Consultant in writing, of any and all objections, if any, to an invoice within ten (10) days of the date of the invoice. A service charge shall be applied at a rate of 1.5 percent per month (or the maximum rate allowable by law) to delinquent amounts.

Article 2.Additional Charges. Reimbursable items shall be invoiced at cost. e.g., blueprinting, mailing, Xeroxing, graphic reproduction, plotting service costs, telephone and travel costs, such as airfare, car rental, meals, hotels and other related travel costs.

Article 3.Extra Work Services. Extra Work services shall be performed only when requested and approved by Client in writing. These services shall be quoted either on a lump sum amount or performed based on hourly rates.

Article 4.Excluded Services. Consultant shall not verify or otherwise be responsible for the accuracy or completeness of data, specifications and/or design work provided to Consultant by Client's other design professionals. All plans shall be prepared at one time with construction phases applied after all plans are completed. All fees quoted are related to the specific Scope of Service and budget stated herein and to Phase One installation only. Services for work outside this Scope and/or related to subsequent phases shall be negotiated between Consultant and Client.

Article 5.Assignment. Neither party to this agreement shall assign its duties and obligations without the prior written consent of the other party.

Article 6.Limitation of Liability. Consultant shall not be held responsible for the means, methods or appropriateness of the installation procedures undertaken by any contractor, nor for the job site safety. Consultant shall not be held responsible for determining and marking the location of underground pipes, wires, conduits, cables or structures such as gas lines, fiber optics, irrigation or septic systems, or any other items which may exist below the surface of the ground. Consultant shall not be held responsible for identifying, locating, discovering, removal and/or treatment of any hazardous waste, known or unknown at the site, nor for the consequences of any hazardous waste materials of any kind at the site, including, but not limited to asbestos and PCB's, as well as materials not yet known as hazardous.

Article 7.Limitation Regarding Parties. Notwithstanding anything to the contrary contained herein, it is agreed, acknowledged and understood that the Client's sole and exclusive claim, demand, suit, judgment or remedy shall be directed and or asserted only against Consultant, as a Corporation, and not against any of Consultants shareholders, landscape architects, directors, officers or employees.

Article 8.Termination of Agreement. This agreement may be terminated by either party effective thirty (30) days after receipt from the other party of a written notice via registered mail, of such termination. In the event of termination,



Consultant shall be entitled to receive full compensation for fees and expenses outstanding as of the effective date of the termination.

Article 9. Attorney Fees. This Agreement shall be governed by the laws of the state of Florida. To the extent permitted by law, Client and Consultant hereby waive all rights to a trial by jury. If a dispute arises under this agreement and litigation is instituted, the prevailing party shall be entitled to recover its reasonable attorney fees.

Article 10. Betterment. If, due to the Consultant's negligence, a required item or component of the Project is omitted from the Consultant's construction documents, the Consultant shall not be responsible for paying the cost required to add such item or component to the extent that such item or component would have been required and included in the original construction documents. In no event will the Consultant be responsible for any cost or expense that provides betterment or upgrades or enhances the value of the Project.

Client Approval: _____ Date: _____

Printed Name: _____ Title: _____

Booth Design Group: _____ Date: May 3, 2021

Printed Name: Hunter A. Booth Title: President

**North River Ranch
Community Development District**

Ratification of Funding Requests # 20 -24

NORTH RIVER RANCH COMMUNITY DEVELOPMENT DISTRICT

Funding Requests 2021-20 - 2021-24

FR #	Description	Amount	Total
2021-20	Ameritt	\$11,300.00	
		\$3,700.00	
	Kaiser Consulting Group	\$4,200.00	
			\$19,200.00
2021-21	Ameritt	\$5,000.00	
	Clearview Land Design	\$430.00	
		\$29.54	
	VGlobalTech	\$125.00	
	Vogler Ashton	\$845.00	
			\$6,429.54
2021-22	McClatchy Company	\$119.34	
	VGlobalTech	\$300.00	
			\$419.34
2021-23	Ameritt	\$2,850.00	
	PFM Group Consulting	\$6.12	
	Supervisor Fees- 3/10/21 Meeting	\$1,000.00	
			\$3,856.12
2021-24	Clearview Land Design	\$662.50	

		\$1,864.68	
	PFM Group Consulting	\$1,666.67	
			\$4,193.85
		TOTAL	\$34,098.85

North River Ranch Community Development District

Funding Request 2021-20

3/19/2021

Item No.	Payee	Invoice #	Phase 4 Construction
1	AMerritt		
	Prepare Phase IV-A Plat Document	20-322	\$ 11,300.00
	Prepare Phase IV-A Plat Document	20-356	\$ 3,700.00
2	Kaiser Consulting Group		
	Brightwood Ph 4A & 4B Tortoise Relocation	2021030701	\$ 4,200.00
			\$ 19,200.00

Vivian Carvalho

Secretary/Assistant Secretary



Chairman

Return to:
North River Ranch CDD
c/o PFM Group Consulting
12051 Corporate Boulevard
Orlando, FL 32817
(407) 723-5925 // LaneA@pfm.com

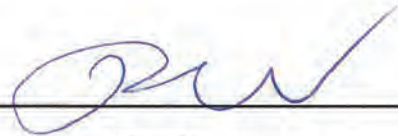
North River Ranch Community Development District

Funding Request 2021-21
4/2/2021

Item No.	Payee	Invoice #	General Fund	Phase 4 Construction
1	AMerritt Prepare Phase IV-A Boundary Survey	20-393		\$ 5,000.00
2	Clearview Land Design Services Through 03/19/2021 Reimbursables Through 03/19/2021	21-00657 21-00660	\$ 430.00 \$ 29.54	
3	VGlobalTech April Website Maintenance	2602	\$ 125.00	
4	Vogler Ashton General Counsel Through 03/15/2021	6717	\$ 845.00	
Subtotal			\$ 1,429.54	\$ 5,000.00
TOTAL			\$6,429.54	

Venessa Ripoll

Secretary/Assistant Secretary



Chairman

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12051 Corporate Boulevard
Orlando, FL 32817
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RECEIVED
By Amanda Lane at 10:36 am, Apr 05, 2021

North River Ranch Community Development District

Funding Request 2021-22
4/9/2021

Item No.	Payee	Invoice #	General Fund
1	McClatchy Company Legal Advertising on 03/03/2021 (Ad: IPL0011575)	13073	\$ 119.34
2	VGlobalTech Quarter 1 ADA Audit	2550	\$ 300.00
TOTAL			\$419.34

Vivian Carvalho

Secretary/Assistant Secretary



Chairman

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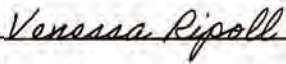
By Amanda Lane at 1:21 pm, Apr 12, 2021

North River Ranch Community Development District

Funding Request 2021-23

4/16/2021

Item No.	Payee	Invoice #	General Fund	Construction Fund
1	AMerritt Compute Subdivision Layout for NRR Ph 1V-C & D	21-125		\$ 2,850.00
2	PFM Group Consulting March Reimbursables	OE-EXP-04-28	\$ 6.12	
3	Supervisor Fees - 04/14/2021 Meeting			
	Dale Weidemiller	--	\$ 200.00	
	Priscilla Heim	--	\$ 200.00	
	Pete Williams	--	\$ 200.00	
	John Blakley	--	\$ 200.00	
	Ivory Matthews	--	\$ 200.00	
Subtotal			\$ 1,006.12	\$ 2,850.00
TOTAL			\$3,856.12	


Secretary/Assistant Secretary


Chairman

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North River Ranch Community Development District

Funding Request 2021-24

4/23/2021

Item No.	Payee	Invoice #	General Fund
1	Clearview Land Design		
	Services Through 04/16/2021	21-00920	\$ 662.50
	Reimbursables Through 04/16/2021	21-00921	\$ 1,864.68
2	PFM Group Consulting		
	DM Fee: April 2021	DM-04-2021-0033	\$ 1,666.67
TOTAL			\$4,193.85

Venessa Ripoll

Secretary/Assistant Secretary



Chairman

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By Amanda Lane at 1:39 pm, Apr 26, 2021

**North River Ranch
Community Development District**

Review of District Financial Statements
(under separate cover)