Executive Summary Report

Of

Event: 525-1 - NW 5th Avenue Streetscape Improvements

Buyer: ERICK MARTINEZ

Date Range: 10/17/2025 04:00:00 PM - 11/21/2025 02:00:00 PM

Suppliers Notified: 475

Notified Suppliers Responding: 3

All Suppliers Responding: 3

Suppliers Responding

Supplier	Contact	Phone Number	E Mail	City	State Or Province	Total Bid Amount	Total Awarded	Response Attachment Exists
M&M ASPHALT MAINTENANCE INC	Kenneth Goldberg	561-588-0949	PUBLICWORKS@ALLCOUNTYPAVING.COM	DELRAY BEACH	FL	878,990.57	0.00	Yes
Sagaris Corp	Mehrdad Mahmoudi	9546883407	office@sagariscorp.com	Coral Springs	FL	969,197.00	0.00	Yes
HG Construction Development & Investment, Inc	andres montes de oca	7868458999	andres@hgconstruction.us	Miami	FL	931,689.76	0.00	Yes

Event Lines And Responses

Item	Description	Unit of Measure	Quantity
MOBILIZATION-	See Section 01505, Mobilization, for payment limitations. All environmental compliance matters except for erosion control system shall be included in Mobilization. Mobilization includes, but is not limited to, bonds, videos, insurance, site cleanup, sanitary facilities, labor associated with permit acquisition, Contractor's staging area, project signs, project coordination, and demobilization. Any damage not confirmed by preconstruction video will be repaired at no additional cost to the City. Payment for mobilization will be made at a lump sum price named in the Bid Schedule. Payment for mobilization will be made in equal monthly amounts during the duration of the original contract time.	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	LS	78,950.000	0.00
Sagaris Corp	1.0000	LS	90,000.000	0.00
HG Construction Development & Investment, Inc	1.0000	LS	39,272.640	0.00

Item	Description	Unit of Measure	Quantity
MAINTENANCE OF TRAFFIC-	See Section 01570, Traffic Regulations, and all other references to traffic control and maintenance, as well as parking control and maintenance in this document and any regulatory requirements for payment limitations.	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	LS	15,000.000	0.00
Sagaris Corp	1.0000	LS	80,000.000	0.00
HG Construction Development & Investment, Inc	1.0000	LS	27,701.640	0.00

Item	Description	Unit of Measure	Quantity
SITE PREPARATION/CLEARING AND GR-	See Section 02200, Site Preparation, for payment limitations. The lump sum price shall include all labor, materials, equipment and all other incidentals required for the removal and disposal of all soil, plantings, trees, stumps, roots, root pruning, and other such material necessary to prepare the area for the proposed construction and which are not included as part of another bid item. Payment for site preparation/clearing and grubbing will be made at a lump sum price named in the Bid Schedule.	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	LS	22,500.000	0.00
Sagaris Corp	1.0000	LS	30,000.000	0.00
HG Construction Development & Investment, Inc	1.0000	LS	8,864.520	0.00

Item	Description	Unit of Measure	Quantity
EXCAVATION/DEMOLITION-	See Section 02316, Excavation, for payment limitations. Measurement for excavation/demolition will include items shown in the Demolition Plan for the entirety of the project limits. This item will include all demolition, excavation for swale grading and sidewalk installation, and hauling away of waste as described in the Construction Documents. The lump sum price shall include all labor, equipment, and all other incidentals required for the removal and disposal of existing material as indicated on the Demolition Plan including, but not limited to, concrete, asphalt, limerock, base material, soil, structures, and other facilities necessary to prepare the area for the proposed construction and which are not included as part of another bid item.	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	LS	20,000.000	0.00
Sagaris Corp	1.0000	LS	30,000.000	0.00
HG Construction Development & Investment, Inc	1.0000	LS	37,859.060	0.00

Item	Description	Unit of Measure	Quantity
SURFACE RESTORATION-	See Section 02575, Surface Restoration for payment limitations. The lump sum price shall include all materials, labor, and equipment necessary to perform site restoration work including swale restoration, sidewalk, curbing, roadway, or driveways impacted by any construction activity adjacent to project site including but not limited to concrete and base removal, striping removal, clearing and grubbing, utility cover adjustments, sidewalk installation, signpost relocations, etc. The pay item includes, but is not limited to, new sod, utility cover adjustments, landscaping, trees, excavation, backfill, grading, irrigation, driveway aprons, sidewalks, fences, pipes, curbs, and any other work required for project completion and acceptance that is not included in the bid items specifically listed herein. Restoration other than or in addition to what is indicated by the plans, specifications, and defined herein will be considered incidental to the construction and the costs of this incidental restoration should be included in the cost of the project.	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	LS	28,800.000	0.00
Sagaris Corp	1.0000	LS	20,000.000	0.00
HG Construction Development & Investment, Inc	1.0000	LS	6,206.370	0.00

Item	Description	Unit of Measure	Quantity
EROSION CONTROL/SWPPP-	Measurement for payment shall include all equipment, materials, supplies, and labor necessary to prepare, obtain permit approval from the Florida Department of Environmental Protection, and implement the prevention, control, and abatement of erosion and water pollution. The lump sum price shall also include costs for adherence to the applicable NPDES permit and Stormwater Pollution Prevention Plan (SWPPP) regulations and requirements such as providing video documentation of the existing site conditions before start of work. Work shall include but not be limited to mulching, sand bagging, slope drains, sediment basins, berms, baled hay or straw, silt fences and staked turbidity barriers, construction fence with visual dust screen, rock bags, filter fabric, artificial coverings and other items relating to the construction/removal and routine maintenance, including mowing, or the prevention, control and abatement of erosion and water pollution plan.	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	LS	8,500.000	0.00
Sagaris Corp	1.0000	LS	7,000.000	0.00
HG Construction Development & Investment, Inc	1.0000	LS	7,223.400	0.00

Item	Description	Unit of Measure	Quantity
6" CONCRETE SIDEWALK-	Measurement for sidewalk shall include all materials, labor, and equipment necessary to install the concrete sidewalk as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of sidewalk, all associated excavation, management of excavated materials, and subbase as needed, backfill and compaction, testing, soil grading if required by adjacent grades to front and/or back of sidewalk or aprons, and ADA compliance for all sidewalk installations.	SY	670.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	670.0000	SY	77.850	0.00
Sagaris Corp	670.0000	SY	120.000	0.00
HG Construction Development & Investment, Inc	670.0000	SY	84.100	0.00

Item	Description	Unit of Measure	Quantity
6" CONCRETE DRIVEWAYS, REINFORCE-	Measurement for driveways shall include all materials, labor, and equipment necessary to install the driveway(s), and reinforcement as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the driveway aprons, reinforcement, all associated excavation, management of excavated materials, new limerock and subbase as needed, backfill and compaction, testing, soil grading if required by adjacent grades to tie new to existing. ADA compliance shall be met where applicable and per plans.	SY	440.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	440.0000	SY	87.750	0.00
Sagaris Corp	440.0000	SY	140.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	440.0000	SY	119.110	0.00

Item	Description	Unit of Measure	Quantity
DETECTABLE WARNING-	Measurement for detectable warning surfaces shall include all materials, labor, and equipment necessary to install the detectable warnings surfaces as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the detectable warning surface. ADA compliance shall be met where applicable and per plans.	SF	70.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	70.0000	SF	38.750	0.00
Sagaris Corp	70.0000	SF	30.000	0.00
HG Construction Development & Investment, Inc	70.0000	SF	106.020	0.00

Item	Description	Unit of Measure	Quantity
TYPE 'D' CURB-	Measurement for type ‘D’ curb shall include all materials, labor, and equipment necessary to install the curb as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.	LF	470.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	470.0000	LF	16.600	0.00
Sagaris Corp	470.0000	LF	40.000	0.00
HG Construction Development & Investment, Inc	470.0000	LF	26.520	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	470.0000	LF	26.520	0.00

Item	Description	Unit of Measure	Quantity
TYPE 'F' CURB-	Measurement for type ‘F’ curb shall include all materials, labor, and equipment necessary to install the curb as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.	LF	400.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	400.0000	LF	30.350	0.00
Sagaris Corp	400.0000	LF	60.000	0.00
HG Construction Development & Investment, Inc	400.0000	LF	33.620	0.00

Item	Description	Unit of Measure	Quantity
1' RETAINING WALL-	Measurement for retaining wall shall include all materials, labor, and equipment necessary to install the retaining wall and reinforcement as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the wall, reinforcement, all associated excavation, management of excavated materials, new limerock and subbase as needed, backfill and compaction, testing, soil grading if required.	LF	115.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	115.0000	LF	57.500	0.00
Sagaris Corp	115.0000	LF	250.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	115.0000	LF	181.010	0.00

Item	Description	Unit of Measure	Quantity
DROP CURB-	Measurement for drop curb shall include all materials, labor, and equipment necessary to install the curb as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.	LF	860.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	860.0000	LF	29.100	0.00
Sagaris Corp	860.0000	LF	50.000	0.00
HG Construction Development & Investment, Inc	860.0000	LF	26.310	0.00

Item	Description	Unit of Measure	Quantity
MANHOLE COVER-	Measurement for manhole cover shall include all materials, labor, and equipment necessary to install the cover as shown on the plans and to be set flushed with surface. Price and payment shall be made at the contract unit prices and shall include the installation of the cover per details and specifications provided on the plans.	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	EA	4,250.000	0.00
Sagaris Corp	1.0000	EA	250.000	0.00
HG Construction Development & Investment, Inc	1.0000	EA	7,179.730	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	1.0000	EA	7,179.730	0.00

Item	Description	Unit of Measure	Quantity
TYPE I CLOSED FLUME INLET-	Measurement for Type I closed flume inlet shall include all materials, labor, and equipment necessary to install the flume as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	EA	18,850.000	0.00
Sagaris Corp	1.0000	EA	8,500.000	0.00
HG Construction Development & Investment, Inc	1.0000	EA	11,879.460	0.00

Item	Description	Unit of Measure	Quantity
SIDEWALK BRIDGE AND CONCRETE FLU-	Measurement for Type I closed flume inlet shall include all materials, labor, and equipment necessary to install the flume as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	EA	10,000.000	0.00
Sagaris Corp	1.0000	EA	5,000.000	0.00
HG Construction Development & Investment, Inc	1.0000	EA	14,884.960	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	1.0000	EA	14,884.960	0.00

Item	Description	Unit of Measure	Quantity
1 1/2" ASPHALT SURFACE TYPE SP 9-	Measurement for asphalt shall include all materials, labor, and equipment necessary to install the asphalt as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the asphalt per standards and specifications.	SY	330.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	330.0000	SY	29.250	0.00
Sagaris Corp	330.0000	SY	40.000	0.00
HG Construction Development & Investment, Inc	330.0000	SY	36.900	0.00

Item	Description	Unit of Measure	Quantity
8" LIMEROCK BASE-	Measurement for limerock shall include all materials, labor, and equipment necessary to install the 8” of limerock as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the limerock, all associated excavation, management of excavated materials, backfill and compaction, testing, soil grading as required.	SY	330.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	330.0000	SY	37.100	0.00
Sagaris Corp	330.0000	SY	55.000	0.00
HG Construction Development & Investment, Inc	330.0000	SY	42.140	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	330.0000	SY	42.140	0.00

Item	Description	Unit of Measure	Quantity
12" STABILIZED SUBGRADE-	Measurement for stabilized subgrade shall include all materials, labor, and equipment necessary to install the stabilized subgrade as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the stabilized subgrade, all associated excavation, management of excavated materials, backfill and compaction, testing, and soil grading as required.	SY	330.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	330.0000	SY	26.250	0.00
Sagaris Corp	330.0000	SY	40.000	0.00
HG Construction Development & Investment, Inc	330.0000	SY	41.530	0.00

Item	Description	Unit of Measure	Quantity
18" REINFORCED CONCRETE PIPE-	Measurement for payment for stormwater improvements shall include all materials, labor, and equipment to furnish and install a the reinforced concrete pipe (RCP) according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, dewatering, location and coordination of all existing utilities prior to construction, removal of existing components as needed, RCP piping, excavation and back fill, compaction, new fill, grading, and as-built drawings for a complete water service installation.	LF	28.0000

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Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	28.0000	LF	287.500	0.00
Sagaris Corp	28.0000	LF	250.000	0.00
HG Construction Development & Investment, Inc	28.0000	LF	314.600	0.00

Item	Description	Unit of Measure	Quantity
EXFILTRATION TRENCH-	Measurement for payment for stormwater improvements shall include all materials, labor, and equipment to furnish and install the perforated reinforced concrete pipe (RCP) with exfiltration trench according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, dewatering, location and coordination of all existing utilities prior to construction, removal of existing components as needed, perforated RCP piping and exfiltration trench, excavation and back fill, compaction, new fill, grading, and as-built drawings for a complete water service installation.	LF	221.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	221.0000	LF	765.000	0.00
Sagaris Corp	221.0000	LF	300.000	0.00
HG Construction Development & Investment, Inc	221.0000	LF	410.910	0.00

Item	Description	Unit of Measure	Quantity
DRAINAGE MANHOLE-	Measurement for payment for stormwater improvements shall include all materials, labor, and equipment to furnish and install the drainage manhole structure according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, dewatering, location and coordination of all existing utilities prior to construction, removal of existing components as needed, drainage manhole structure, excavation and back fill, compaction, new fill, grading, and as-built drawings for a complete water service installation.	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	EA	15,500.000	0.00
Sagaris Corp	1.0000	EA	8,000.000	0.00
HG Construction Development & Investment, Inc	1.0000	EA	8,092.010	0.00

Item	Description	Unit of Measure	Quantity
CATCH BASIN-	Measurement for payment for stormwater improvements shall include all materials, labor, and equipment to furnish and install the catch basin structure according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, dewatering, location and coordination of all existing utilities prior to construction, removal of existing components as needed, catch basin structure, excavation and back fill, compaction, new fill, grading, and as-built drawings for a complete water service installation.	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	4.0000	EA	10,950.000	0.00
Sagaris Corp	4.0000	EA	8,000.000	0.00
HG Construction Development & Investment, Inc	4.0000	EA	22,837.430	0.00

Item	Description	Unit of Measure	Quantity
MILL ASPHALT (1" MIN.)-	Measurement for payment for milling shall include all materials, labor, and equipment associated with milling the existing asphalt throughout the project area as shown on the plans complete and accepted. Price and payment shall be made at the contract unit price per square yard of existing asphalt milled (minimum depth 1”).	SY	1,590.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1,590.0000	SY	4.500	0.00
Sagaris Corp	1,590.0000	SY	15.000	0.00
HG Construction Development & Investment, Inc	1,590.0000	SY	10.560	0.00

Item	Description	Unit of Measure	Quantity
ASPHALT OVERLAY (1" MIN.)-	Measurement for payment for milling and resurfacing shall include all materials, labor, and equipment associated with milling the existing asphalt and installing the asphalt concrete overlay throughout the project area as shown on the plans complete and accepted. Price and payment shall be made at the contract unit price per square yard of asphalt and includes all costs associated with installing a final asphalt concrete overlay (as specified) upon completion of all project improvements. This asphalt concrete overlay bid item includes costs for asphalt thickness variations as needed to provide a smooth and continuous grade throughout the entire asphalt overlay area and to avoid areas of standing water.	SY	1,590.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1,590.0000	SY	12.350	0.00
Sagaris Corp	1,590.0000	SY	25.000	0.00
HG Construction Development & Investment, Inc	1,590.0000	SY	21.200	0.00

Item	Description	Unit of Measure	Quantity
SINGLE POST SIGN, RELOCATE-	Measurement for payment for post relocation(s) shall include all labor and equipment to relocate sign(s) as indicated on the plans. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	EA	125.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
Sagaris Corp	1.0000	EA	200.000	0.00
HG Construction Development & Investment, Inc	1.0000	EA	3,524.340	0.00

Item	Description	Unit of Measure	Quantity
THERMOPLASTIC, STANDARD, 4" SOLI-	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	LF	140.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	140.0000	LF	1.620	0.00
Sagaris Corp	140.0000	LF	3.000	0.00
HG Construction Development & Investment, Inc	140.0000	LF	26.820	0.00

Item	Description	Unit of Measure	Quantity
THERMOPLASTIC, STANDARD, 24" SOL-	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	LF	30.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	30.0000	LF	7.870	0.00
Sagaris Corp	30.0000	LF	13.000	0.00
HG Construction Development & Investment, Inc	30.0000	LF	106.920	0.00

Item	Description	Unit of Measure	Quantity
THERMOPLASTIC, STANDARD, 12" SOL-	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	LF	180.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	180.0000	LF	4.940	0.00
Sagaris Corp	180.0000	LF	7.000	0.00
HG Construction Development & Investment, Inc	180.0000	LF	23.700	0.00

Item	Description	Unit of Measure	Quantity
THERMOPLASTIC, STANDARD, 6" SOLI-	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	LF	80.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	80.0000	LF	1.870	0.00
Sagaris Corp	80.0000	LF	4.000	0.00
HG Construction Development & Investment, Inc	80.0000	LF	42.680	0.00

Item	Description	Unit of Measure	Quantity
THERMOPLASTIC, STANDARD, 18" SOL-	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	LF	10.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	10.0000	LF	7.370	0.00
Sagaris Corp	10.0000	LF	10.000	0.00
HG Construction Development & Investment, Inc	10.0000	LF	281.790	0.00

Item	Description	Unit of Measure	Quantity
THERMOPLASTIC, STANDARD, 6" SOLI-	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	LF	260.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	260.0000	LF	1.870	0.00
Sagaris Corp	260.0000	LF	12.000	0.00
HG Construction Development & Investment, Inc	260.0000	LF	19.030	0.00

Item	Description	Unit of Measure	Quantity
BLUE REFLECTIVE PAVEMENT MARKER-	Measurement for payment for retro-reflective pavement markers shall include all materials, labor, and equipment associated with installing associated retro-reflective pavement markers throughout the project area. All pavement markers must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	EA	9.370	0.00
Sagaris Corp	1.0000	EA	20.000	0.00
HG Construction Development & Investment, Inc	1.0000	EA	2,750.910	0.00

Item	Description	Unit of Measure	Quantity
YELLOW/YELLOW REFLECTIVE PAVEMEN-	Measurement for payment for retro-reflective pavement markers shall include all materials, labor, and equipment associated with installing associated retro-reflective pavement markers throughout the project area. All pavement markers must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	EA	20.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	20.0000	EA	9.370	0.00
Sagaris Corp	20.0000	EA	20.000	0.00
HG Construction Development & Investment, Inc	20.0000	EA	154.900	0.00

Item	Description	Unit of Measure	Quantity
WHITE/RED REFLECTIVE PAVEMENT MA-	Measurement for payment for retro-reflective pavement markers shall include all materials, labor, and equipment associated with installing associated retro-reflective pavement markers throughout the project area. All pavement markers must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.	EA	25.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	25.0000	EA	9.370	0.00
Sagaris Corp	25.0000	EA	20.000	0.00
HG Construction Development & Investment, Inc	25.0000	EA	127.570	0.00

Item	Description	Unit of Measure	Quantity
8"X1" CORPORATION STOP-	Measurement for payment for installation of corporation stop shall include all materials, labor, and equipment to furnish and install connection according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, location and coordination of all existing utilities prior to construction, removal of existing components as needed, new water service connection, corporation stops, fittings, couplings, connection to existing water system, excavation and back fill, compaction, new fill, grading, safety, disinfection, pressure testing, and as-built drawings as required per City and approved plans.	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	EA	3,250.000	0.00
Sagaris Corp	1.0000	EA	600.000	0.00
HG Construction Development & Investment, Inc	1.0000	EA	4,541.370	0.00

Item	Description	Unit of Measure	Quantity
5/8" METER CONNECTION AND PVB-	Measurement for payment for meter connection and PVB shall include all materials, labor, and equipment to furnish and install a meter and PVB with accessories according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, location and coordination of all existing utilities prior to construction, removal of existing components as needed, new meter box, and water meter, pressure vacuum breaker assembly, fittings, couplings, excavation and back fill, compaction, new fill, grading, safety, disinfection, pressure testing, and as-built drawings as required per City and approved plans.	LS	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	LS	5,525.000	0.00
Sagaris Corp	1.0000	LS	1,500.000	0.00
HG Construction Development & Investment, Inc	1.0000	LS	5,168.640	0.00

Item	Description	Unit of Measure	Quantity
1" HDPE SERVICE LINE-	Measurement for payment for 1” HDPE service line shall include all materials, labor, and equipment to furnish and install a new 1-inch HDPE service line with accessories according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, location and coordination of all existing utilities prior to construction, removal of existing components as needed, new water service line installation, HDPE piping, fittings, couplings, connection to existing water system, excavation and back fill, compaction, new fill, grading, safety, disinfection, pressure testing, and as-built drawings as required per City and approved plans.	LF	10.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	10.0000	LF	65.000	0.00
Sagaris Corp	10.0000	LF	50.000	0.00
HG Construction Development & Investment, Inc	10.0000	LF	424.290	0.00

Item	Description	Unit of Measure	Quantity
TREE REMOVAL-	Measurement for payment for tree removal shall include all materials, labor, and equipment necessary to complete work described in the approved tree disposition plans and details. This item shall include tree/palm removal. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	7.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	7.0000	EA	1,200.000	0.00
Sagaris Corp	7.0000	EA	500.000	0.00
HG Construction Development & Investment, Inc	7.0000	EA	938.470	0.00

Item	Description	Unit of Measure	Quantity
TREE RELOCATION-	Measurement for payment for tree relocation shall include all materials, labor, and equipment necessary to complete work described in the tree disposition plans and details. This item shall include tree/palm relocation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	15.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	15.0000	EA	1,200.000	0.00
Sagaris Corp	15.0000	EA	900.000	0.00
HG Construction Development & Investment, Inc	15.0000	EA	730.270	0.00

Item	Description	Unit of Measure	Quantity
TREE PROTECTION FENCING-	Measurement for payment for tree protection fencing shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree bracing canopy/crown pruning, root pruning, tree staking and maintenance during construction. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	LF	295.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	295.0000	LF	78.000	0.00
Sagaris Corp	295.0000	LF	10.000	0.00
HG Construction Development & Investment, Inc	295.0000	LF	16.570	0.00

Item	Description	Unit of Measure	Quantity
SILVER BUTTONWOOD - 2" CAL. 12'--	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	3.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	3.0000	EA	1,500.000	0.00
Sagaris Corp	3.0000	EA	1,500.000	0.00
HG Construction Development & Investment, Inc	3.0000	EA	1,915.730	0.00

Item	Description	Unit of Measure	Quantity
MUSKOGEE CRAPE MYRTLE - 2.5" CAL-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	4.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	4.0000	EA	1,800.000	0.00
Sagaris Corp	4.0000	EA	1,500.000	0.00
HG Construction Development & Investment, Inc	4.0000	EA	2,016.870	0.00

Item	Description	Unit of Measure	Quantity
TRIPLE TRUNK SOLITAIRE PALM - 14-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	5.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	5.0000	EA	1,200.000	0.00
Sagaris Corp	5.0000	EA	800.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	5.0000	EA	1,606.180	0.00

Item	Description	Unit of Measure	Quantity
RELOCATED SABAL PALM-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	15.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	15.0000	EA	600.000	0.00
Sagaris Corp	15.0000	EA	1,000.000	0.00
HG Construction Development & Investment, Inc	15.0000	EA	730.270	0.00

Item	Description	Unit of Measure	Quantity
FOXTAIL PALM - 14' OA-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	1.0000

continued...

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	EA	2,400.000	0.00
Sagaris Corp	1.0000	EA	800.000	0.00
HG Construction Development & Investment, Inc	1.0000	EA	3,853.200	0.00

Item	Description	Unit of Measure	Quantity
AUNTIE LOU TI PLANT - 3'-4' HT-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	78.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	78.0000	EA	72.000	0.00
Sagaris Corp	78.0000	EA	100.000	0.00
HG Construction Development & Investment, Inc	78.0000	EA	249.400	0.00

Item	Description	Unit of Measure	Quantity
HORIZONTAL COCO PLUM - 24" X 24"-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	48.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	48.0000	EA	19.200	0.00
Sagaris Corp	48.0000	EA	25.000	0.00
HG Construction Development & Investment, Inc	48.0000	EA	89.810	0.00

Item	Description	Unit of Measure	Quantity
ORANGE BROMELIAD - 4' HT-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	33.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	33.0000	EA	180.000	0.00
Sagaris Corp	33.0000	EA	150.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	33.0000	EA	214.350	0.00

Item	Description	Unit of Measure	Quantity
FLAX LILY - 12" X 12"-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	328.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	328.0000	EA	6.000	0.00
Sagaris Corp	328.0000	EA	12.000	0.00
HG Construction Development & Investment, Inc	328.0000	EA	24.770	0.00

Item	Description	Unit of Measure	Quantity
GREEN ISLAND FICUS - 15" X 15"-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	319.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	319.0000	EA	12.000	0.00
Sagaris Corp	319.0000	EA	20.000	0.00
HG Construction Development & Investment, Inc	319.0000	EA	57.890	0.00

Item	Description	Unit of Measure	Quantity
BIRD OF PARADISE - 4' HT-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	6.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	6.0000	EA	150.000	0.00
Sagaris Corp	6.0000	EA	70.000	0.00
HG Construction Development & Investment, Inc	6.0000	EA	718.520	0.00

Item	Description	Unit of Measure	Quantity
FAKAHATCHEE GRASS - 24" X 24"-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	19.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	19.0000	EA	12.000	0.00
Sagaris Corp	19.0000	EA	20.000	0.00
HG Construction Development & Investment, Inc	19.0000	EA	160.260	0.00

Item	Description	Unit of Measure	Quantity
COONTIE - 12" X 12"-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	16.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	16.0000	EA	30.000	0.00
Sagaris Corp	16.0000	EA	30.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	16.0000	EA	287.100	0.00

Item	Description	Unit of Measure	Quantity
FLORATAM ST. AUGUSTINE GRASS-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	SF	1,100.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1,100.0000	SF	1.200	0.00
Sagaris Corp	1,100.0000	SF	5.000	0.00
HG Construction Development & Investment, Inc	1,100.0000	SF	3.390	0.00

Item	Description	Unit of Measure	Quantity
ASIATIC JASMINE - 8" HT-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	1,069.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1,069.0000	EA	6.000	0.00
Sagaris Corp	1,069.0000	EA	9.000	0.00
HG Construction Development & Investment, Inc	1,069.0000	EA	17.170	0.00

Item	Description	Unit of Measure	Quantity
BIOSWALE PLANTING MIX-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	EA	217.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	217.0000	EA	114.000	0.00
Sagaris Corp	217.0000	EA	50.000	0.00
HG Construction Development & Investment, Inc	217.0000	EA	29.640	0.00

Item	Description	Unit of Measure	Quantity
GRAVEL MULCH - 1"-3"-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	SF	565.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	565.0000	SF	20.390	0.00
Sagaris Corp	565.0000	SF	10.000	0.00
HG Construction Development & Investment, Inc	565.0000	SF	20.060	0.00

Item	Description	Unit of Measure	Quantity
GRAVEL FOREBAY - 3"-5"-	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.	SF	50.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	50.0000	SF	45.600	0.00
Sagaris Corp	50.0000	SF	50.000	0.00

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
HG Construction Development & Investment, Inc	50.0000	SF	83.880	0.00

Item	Description	Unit of Measure	Quantity
IRRIGATION-	Measurement for payment for irrigation shall include all materials, labor and equipment necessary to furnish and install the irrigation system as described in the contract documents. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Payment for furnishing and installing all irrigation related items shall constitute full compensation for furnishing, fabricating, transporting, and installing the pipe, fittings, controller, backflow devices, backflow enclosures, meter installation, irrigation heads, irrigation valves, appurtenances and all other items necessary and incidental to completion of the work, required excavation, horizontal directional drill, open trench cut, missile boring, dewatering and backfilling.	EA	1.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	1.0000	EA	44,772.000	0.00
Sagaris Corp	1.0000	EA	70,000.000	0.00
HG Construction Development & Investment, Inc	1.0000	EA	36,836.640	0.00

Item	Description	Unit of Measure	Quantity
BENCH-	Measurement for payment for site furnishings shall be per product details and specifications on plans and approved by City. Payment for furnishing and installation shall constitute full compensation for the completed installation of the item including but not limited to site prep, application of product, base materials, foundations, preparation of engineered shop drawings, fabrication, delivery and installation, modifications, and cleaning.	EA	6.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	6.0000	EA	2,690.000	0.00
Sagaris Corp	6.0000	EA	3,000.000	0.00
HG Construction Development & Investment, Inc	6.0000	EA	3,286.270	0.00

Item	Description	Unit of Measure	Quantity
WASTE RECEPTACLE-	Measurement for payment for hardscape and site furnishings shall include site furnishings, patterned textured pavement crosswalks, and concrete walls. Payment for furnishing and installing all hardscape items shall constitute full compensation for the completed installation of the item including but not limited to site prep, application of product, base materials, foundations, preparation of engineered shop drawings, fabrication, delivery and installation, modifications, cleaning, all required dewatering.	EA	3.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	3.0000	EA	2,315.000	0.00
Sagaris Corp	3.0000	EA	2,700.000	0.00
HG Construction Development & Investment, Inc	3.0000	EA	3,614.020	0.00

Item	Description	Unit of Measure	Quantity
BIKE RACK-	Measurement for payment for hardscape and site furnishings shall include site furnishings, patterned textured pavement crosswalks, and concrete walls. Payment for furnishing and installing all hardscape items shall constitute full compensation for the completed installation of the item including but not limited to site prep, application of product, base materials, foundations, preparation of engineered shop drawings, fabrication, delivery and installation, modifications, cleaning, all required dewatering.	EA	2.0000

Responses

Supplier	Bid Quantity	Unit of Measure	Unit Price	Award Amount
M&M ASPHALT MAINTENANCE INC	2.0000	EA	4,375.000	0.00
Sagaris Corp	2.0000	EA	1,500.000	0.00
HG Construction Development & Investment, Inc	2.0000	EA	3,465.540	0.00

Header Questions And Responses

QUESTION

Have you filled out and attached all Required Forms?

Question Responses

Supplier	Name	Answer
250	M&M ASPHALT MAINTENANCE INC	Yes
1405	Sagaris Corp	Yes
5157	HG Construction Development & Investment, Inc	Yes

QUESTION

Have you attached your Licenses per Special Conditions, Section 7 "Required Licenses/Certifications"?

continued...

Question Responses		
Supplier	Name	Answer
250	M&M ASPHALT MAINTENANCE INC	Yes
1405	Sagaris Corp	Yes
5157	HG Construction Development & Investment, Inc	Yes

QUESTION

The attached Anti-Human Trafficking Affidavit will be requested by the City from the awarded Bidder. This is an exhibit only and not needed as part of your initial bid response.

Question Responses		
Supplier	Name	Answer
250	M&M ASPHALT MAINTENANCE INC	Yes
1405	Sagaris Corp	Yes
5157	HG Construction Development & Investment, Inc	Yes

Contacts

Name	Email
ERICK MARTINEZ	emartinez@fortlauderdale.gov

Q And A

Supplier	Question	Answer
ric-man international, inc	what is the budget/engineers estimate?	Engineer's estimate is $939,360.44.
Sagaris Corp	what is the budget for this job	Budget is based on the Engineer's estimate which is $939,360.44.

continued...

Supplier	Question	Answer
HG Construction Development & Investment Inc	1-The bid form (line 23) shows two Catch Basins and sheet No (8) shows CB1; CB2; CB3; CB4. Please advise.	The correct amount of catch basins for this project is 4 each as shown on sheet #8 of the plan set. Line item 23 has been changed to Quantity 4, per Addendum 1.
HG Construction Development & Investment Inc	2-The set of drawings includes sheet #28 (drawing FPL). Should we include the scope of electrical work specified on this drawing in our price, or will it be performed by others? If it should be included, where do we include the price ?	FPL will be performing that work. The page was added solely for coordination purposes so the contractor is aware of the scope and can estimate the scheduling of the work.
HG Construction Development & Investment Inc	3-Could you extend the bidding due date by four more days?	Per Addendum 1, the Bid Due Date has been extended to Friday, November 21, 2025, at 2:00PM (local time).

CITY OF FORT LAUDERDALE

CONTRACT AND SPECIFICATIONS PACKAGE

BID/EVENT NO. 525

PROJECT NO. P12507

NW 5th Avenue Streetscape Improvements

ERICK MARTINEZ
SENIOR PROCUREMENT SPECIALIST
Telephone: (954) 828-4019 E-mail: emartinez@fortlauderdale.gov

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Note: **The following documents are available electronically for completion and must be returned with your bid along with your bid security, proof of insurance, and proof of required licenses/certifications.**

Affidavit of Compliance with Foreign Entity Laws
CITB Questionnaire Sheet
CITB Specific References
City of Fort Lauderdale Bid/Proposal Construction Bid Certification Page
Contract Payment Method
Disadvantaged Business Enterprise Preference Certification
E-Verify Statement
Local Business Preference Certification
Non-Collusion Statement
Non-Discrimination Certification Form
Drug Free Workplace Certification

INVITATION TO BID

Sealed bids will be received electronically until **2:00 p.m.**, local time, on **November 17, 2025,** and opened online immediately thereafter for **BID/EVENT NO., 525, PROJECT NO., P12507, NW 5th Avenue Streetscape Improvements.**

Please be advised that effective immediately, and until further notice, all Invitation to Bids, Request for Proposals, Request for Qualifications, and other solicitations led by the City of Fort Lauderdale will be opened electronically via the City's on-line strategic sourcing platform at the date and time indicated on the solicitation. All openings will be held on the City's on-line strategic sourcing platform.

In the event of any conflict or discrepancy between bid price(s) submitted by bidder electronically into the City's online strategic sourcing platform Unit Price field(s), any other forms or attachments (whether part of the City's solicitation documents or documents created and uploaded by the bidder, or another section/field of the System, the online unit price(s) **inputted** electronically into the System by the bidder shall govern.

Anyone requesting assistance or having further inquiry in this matter must contact the Procurement Specialist indicated in the solicitation, via the Question and Answer (Q&A) forum on the City's online strategic sourcing platform before the Last Day for Questions indicated in the Solicitation.

This Project is located at NW 5th Avenue between NW 7th St street and NW 6th St street in the City of Fort Lauderdale. The intent of the Project is to improve walkability and connectivity by providing new concrete sidewalks, pedestrian seating areas, decorative crosswalks, site furnishings, landscape and irrigation improvements, curb and gutter improvements, signing and marking improvements, milling and resurfacing of the existing asphalt.

THE FOLLOWING IS APPLICABLE TO THIS SOLICITATION IF CHECKED:

☐ **LUMP SUM BID** - City shall pay awarded bidder the Contract Price for the performance of work described in this Invitation for Bid. Payment shall be at the lump sum price stated in this Invitation to Bid and/or resultant contract. This price shall be full compensation for all costs, including overhead and profit, associated with completion of all work in full conformity with the requirements as stated or shown, or both, in the contract documents. The cost of any item of work not covered in this solicitation shall still be provided and the cost borne by the contractor. NO CHANGE ORDERS WILL BE ALLOWED UNLESS IT IS OWNER-DRIVEN AND INITIATED BY THE CITY.

Drawing Plans: This Project consists of Drawing File No., 4-145-02, 23 sheets. Drawing plans may be obtained **free of charge** at the City's online strategic sourcing platform.

Licensing Requirements: Possession of a General Contractor's license issued by the State of Florida is required for this Project.

OR

Any other State or County License(s), Certification(s) or Registration(s) deemed legally permissible by the City to conduct the nature of the work required in this solicitation.

Any sub-contractors employed by the Proposer shall be licensed and insured in accordance with this solicitation. Additionally, it is the Proposer's responsibility for ensuring that any sub-contractors' work meets the requirements of this solicitation at all times.

NOTE: Payment on this contract will be made by Visa or MasterCard OR Check.

Pre-Bid Conference/Site visit:

Pre-Bid Conference/Site visit: A pre-bid conference and site visit will be held on Monday, October 27, 2025, at 10:00am, local time.

Location: 701 NW 5th Ave #1092
Fort Lauderdale, FL 33311

While attendance is not mandatory, tours at other times might not be available. It is the sole responsibility of the Contractor to become familiar with the scope of the City's requirements and systems prior to submitting a bid. No variation in price or conditions shall be permitted based upon a claim of ignorance. It is strongly suggested that all Bidders attend the pre-bid meeting and/or site visit.

It will be the sole responsibility of the Bidder to attend the pre-bid/site visit to inspect the City's location(s) facilities systems prior to submitting a bid. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the Bidder has familiarized themselves with the nature and extent of the work, equipment, materials, and labor required.

If a person decides to appeal any decision made by the board, agency, or commission with respect to any matter considered at such meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based.

Bid Security: A certified check, cashier's check, bank officer's check or bid bond for **FIVE percent (5%)** of the bid amount, made payable to the City of Fort Lauderdale, Florida, shall accompany each offer.

Bid Bonds:

Bidders can submit bid bonds **three** different ways.

1) Bidders may **upload** their original executed bid bond on the City's online strategic sourcing platform to accompany their electronic bids and deliver the original, signed and sealed hard copy to the Finance Department, Procurement Services Division, 101 NE 3rd Avenue, Suite 1650, Fort Lauderdale, Florida 33301-1016, **within five (5) business days** after bid opening, with the company name, bid number and title clearly indicated on the envelope.

2) Bidders can **hand deliver** their original, signed and sealed bid bond in a sealed envelope to the Finance Department, Procurement Services Division, 101 NE 3rd Avenue, Suite 1650, Fort Lauderdale, Florida 33301-1016, **before time of bid opening**, with the company name, bid number and title clearly indicated on the envelope.

3) Bidders can **mail** their original, signed and sealed bid bond to the Finance Department, Procurement Services Division, 101 NE 3rd Avenue, Suite 1650, Fort Lauderdale, Florida 33301-1016, **before time of bid opening**, with the company name, bid number and title clearly indicated on the envelope. NOTE: Bond must be received in Procurement and time stamped before bid opening.

It will be the sole responsibility of the bidder to ensure that its bid is submitted prior to the bid opening date and time listed. **PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. BIDS MUST BE SUBMITTED ELECTRONICALLY VIA THE CITY'S ONLINE STRATEGIC SOURCING PLATFORM.**

Certified Checks, Cashier's Checks and Bank Drafts:
These **CANNOT** be submitted via the City's online strategic souring platform, nor are their images allowed to be uploaded and submitted with your electronic bid. These forms of securities, as well as hard copy bid bonds, must be received on or before the Invitation to Bid (ITB) opening date and time, at the Finance Department, Procurement Services Division, 101 NE 3rd Avenue, Suite 1650, Fort Lauderdale, Florida 33301-1016, with the bid number and title clearly indicated on the envelope.

It is the bidder's sole responsibility to ensure that its bid bond or other bid security is received by the Procurement Services Division before the time of bid opening. Failure to adhere to this requirement may be grounds to consider the bid as non-responsive.

The City of Fort Lauderdale reserves the right to waive any informality in any or all bids and to reject any or all bids.

For information concerning technical specifications, please utilize the Q&A platform provided on the City's online strategic sourcing platform. Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures, will only be transmitted by written addendum. **Bidders please note:** No part of your bid can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the bidder has familiarized himself with the nature and extent of the work, equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation.

Information on bid results and projects currently out to bid can be obtained on the City's website – https://www.fortlauderdale.gov/government/departments-a-h/finance/procurement-services
For general inquiries, please call (954) 828-5933.

-END OF SECTION-

INSTRUCTIONS TO BIDDERS

The following instructions are given for the purpose of guiding bidders in properly preparing their bids or proposals. These directions have equal force and weight with the specifications, and strict compliance is required with all of these provisions.

QUALIFICATIONS OF BIDDERS – No bid will be accepted from, nor will any contract be awarded to, any person who is in arrears to the City of Fort Lauderdale, upon any debt or contract, or who has defaulted, as surety or otherwise, upon any obligation to the City, or who is deemed irresponsible or unreliable by the City Commission of Fort Lauderdale.

CONCERNING SUB-CONTRACTORS, SUPPLIERS, AND OTHERS - The amount of work that is sublet by the Bidder shall be limited by the condition that the Bidder shall, with his own organization, perform at least forty percent (40%) of the total dollar amount of the Work to be performed under the Agreement.

PERSONAL INVESTIGATION - Bidders shall satisfy themselves by personal investigation, and by such other means as they may think necessary or desirable, as to the conditions affecting the proposed work and the cost. No information derived from maps, plans, specifications, or from the Engineer or City staff shall relieve the Contractor from any risk or from fulfilling all terms of the contract.

INCONSISTENCIES – Any inconsistency between different provisions of the plans, specifications, bid or contract, or any point requiring explanation must be inquired by the bidder, in writing, at least ten (10) days prior to the time set for opening bids. After bids are opened, the bidders shall abide by the decision of the Engineer as to such interpretation.

ADDENDA AND INTERPRETATIONS - No interpretations of the meaning of the plans, specifications or other contract documents will be made orally to any bidder. Prospective bidders must request such interpretation in writing as instructed in the bid package. To be considered, such request must be received by the Questions and Answers deadline as indicated in the City's online strategic sourcing platform. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum. **It is the bidder's responsibility to verify if addenda have been issued in the City's online strategic sourcing platform.** Failure of any bidder to receive any such addenda or interpretation shall not relieve any bidder from any obligation under its bid as submitted. All addenda so issued shall become a part of the contract document. **Bidder** shall verify in the City's online strategic sourcing platform that it has all addenda before submitting a bid.

LEGAL CONDITIONS - Bidders are notified to familiarize themselves with the provisions of the laws of the State of Florida relating to hours of labor on municipal work, and with the provisions of the laws of the State of Florida and the Charter and the ordinances of the City of Fort Lauderdale.

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

FORMS OF BIDS - Each bid and its accompanying statements MUST BE SUBMITTED ELECTRONICALLY, IN GOOD ORDER WITH ALL BLANKS COMPLETED, and must show the name of the bidder and a statement as to its contents. In the event of any conflict or discrepancy between bid

price(s) submitted by bidder electronically into the City's online strategic sourcing platform Unit Price field(s), any other forms or attachments (whether part of the City's solicitation documents or documents created and uploaded by the bidder, or another section/field of the System, the online unit price(s) **inputted** electronically into the System by the bidder shall govern.

The bid must be signed by one duly authorized to do so, and in case signed by a deputy or subordinate, the principal's properly written authority to such deputy or subordinate must accompany the bid. No bid will be accepted, for any reason whatsoever, which is not submitted to the City as stated above, within the specified time.

INSURANCE - Contractor shall provide and shall require all of its sub-contractors to provide, pay for, and maintain in force at all times during the term of the Agreement, such insurance, including Property Insurance (Builder's Risk), Commercial General Liability Insurance, Business Automobile Liability Insurance, Workers' Compensation Insurance, Employer's Liability Insurance, and Umbrella/Excess Liability, as stated below. Such policy or policies shall be issued by companies authorized to do business in the State of Florida and having agents upon whom service of process may be made in the State of Florida.

BID BOND - A certified check, cashier's check or bank officer's check made payable to the City of Fort Lauderdale, or a bid bond in favor of the City of Fort Lauderdale shall accompany each bid as evidence of the good faith and responsibility of the bidder. The amount of the check or bond shall be retained by the City as liquidated damages in the event the bidder whose bid is accepted refuses to or fails to enter into a contract for the execution of the work solicited in this Invitation to Bid.

The bid bond or check shall be a guarantee that the successful bidder will promptly execute a contract satisfactory to the City for the work solicited in this Invitation to Bid and furnish good and sufficient bonds.

Following the full execution of a contract for the work solicited in this Invitation to Bid and the successful bidder's provision of good and sufficient bonds, in the event bid security was provided by check, the amount of the bid security accompanying the successful bidder's bid will be refunded to the successful bidder, or in the event bid security was provided by a bond, the bond accompanying the successful bidder's bid will be returned to the successful bidder. In the event the successful bidder fails to enter into, execute, and deliver a contract and furnish the required bonds within ten (10) days after the City provides notice to the successful bidder to deliver the executed contract and the required bonds, the bid bond shall immediately be payable to the City of Fort Lauderdale, or in the case of a check, the City shall retain the amount of the check, as liquidated damages. The City's retention of such amount shall not be construed as a penalty or forfeiture.

FILLING IN BIDS - All prices must be electronically submitted in the bid pages, and bids must fully cover all items for which prices are asked and no other. Where more than one person is interested, it is required that all persons interested or their legal representative make all verification and subscribe to the bid. In the event of any conflict or discrepancy between bid price(s) submitted by bidder electronically into the City's online strategic sourcing platform Unit Price field(s), any other forms or attachments (whether part of the City's solicitation documents or documents created and uploaded by the bidder, or another section/field of the System, the online unit price(s) **inputted** electronically into the System by the bidder shall govern.

PRICES QUOTED: Deduct any discount offered and quote firm net unit prices. In the case of a discrepancy in computing the amount of the bid, the unit price quoted will govern. All prices quoted shall be F.O.B. destination, freight prepaid (Bidder pays and bears freight charges, Bidder owns goods in transit and files any claims), unless otherwise stated in Special Conditions. Each item must be bid

separately. No attempt shall be made to tie any item or items contained in the ITB with any other business with the City.

BIDS FIRM FOR ACCEPTANCE: Bidder warrants, by virtue of bidding, that his bid and the prices quoted in his bid will be firm for acceptance by the City for a period of one hundred and twenty (120) days from the date of bid opening unless otherwise stated in the ITB. The City shall award contract within this time period or shall request to the recommended awarded vendor an extension to hold pricing, until products/services have been awarded.

ADDITIONAL ITEMS OR SERVICES: The City may require additional items or services of a similar nature, but not specifically listed in the contract. The Contractor agrees to provide such items or services and shall provide the City prices on such additional items or services. If the price(s) offered are not acceptable to the City, and the situation cannot be resolved to the satisfaction of the City, the City reserves the right to procure those items or services from other vendors, or to cancel the contract upon giving the Contractor thirty (30) days written notice.

DELETION OR MODIFICATION OF SERVICES: The City reserves the right to delete any portion of the Contract at any time without cause, and if such right is exercised by the City, the total fee shall be reduced in the same ratio as the estimated cost of the work deleted bears to the estimated cost of the work originally planned. If work has already been accomplished on the portion of the Contract to be deleted, the Contractor shall be paid for the deleted portion on the basis of the estimated percentage of completion of such portion.

If the Contractor and the City agree on modifications or revisions to the task elements, after the City has approved work to begin on a particular task or project, and a budget has been established for that task or project, the Contractor will submit a revised cost to the City for approval prior to proceeding with the work.

TERMINATION FOR UNAPPROPRIATED FUNDS**:** The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.

CAUSES FOR REJECTION - No bid will be canvassed, considered or accepted which, in the opinion of the City is informal or unbalanced, or contains inadequate or unreasonable prices for any items. Each item must carry its own proportion of the cost as nearly as is practicable. Any alteration, erasure, interlineation, or failure to specify bids for all items called for in the schedule shall render the bid informal.

REJECTION OF BIDS - The City reserves the right to reject any bid if the evidence submitted by the bidder, or if the investigation of such bidder, fails to satisfy the City that such bidder is properly qualified to carry out the obligations and to complete the work contemplated. Any or all bids will be rejected, if there is reason to believe that collusion exists among bidders. A bid will be considered irregular and may be rejected, if it shows serious omissions, alterations in form, additions not called for, conditions or unauthorized alternates, or irregularities of any kind. The City reserves the right to reject any or all bids and to waive such technical errors as may be deemed best for the interests of the City.

BID PROTEST PROCEDURE: Any bidder who is not recommended for award of a contract and who alleges a failure by the City to follow the City's procurement ordinance or any applicable law may protest to the Procurement Division – Deputy Director of Finance, by delivering a letter of protest within five (5) days after a Notice of Intent to award is posted on the City's website at the following link: https://www.fortlauderdale.gov/government/departments-a-h/finance/procurement-services/notices-of-intent-to-award

The complete protest ordinance may be found on the City's website at the following link: https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-182DIREPRAWINAW

WITHDRAWALS - Any bidder may, without prejudice to himself, withdraw its bid at any time prior to the expiration of the time during which bids may be submitted. Such request for withdrawal must be in writing and signed in the same manner and by the same person who signed the bid. After expiration of the period for receiving bids, no bids can be withdrawn, modified, or explained.

CONTRACT - The bidder to whom award is made shall execute a written contract to do the work and maintain the same in good repair until final acceptance by the proper authorities and shall furnish good and sufficient bonds as specified within ten (10) days after receiving such contract for execution. If the bidder to whom the first award is made fails to enter into a contract as provided, the award may be annulled and the contract let to the next lowest bidder who is responsive and responsible, and that bidder shall fulfill every stipulation and obligation as if such bidder were the original party to whom award was made.

The contract shall provide that the Contractor agrees to correct any defective or faulty work or material, which may appear within one (1) year after completion of the work and receipt of final payment.

ENFORCEMENT OF SPECIFICATIONS - Copies of the specifications will be placed in the hands of all the assistants to the Engineer and Inspectors employed on the Work, who shall enforce each and every requirement of the contract. Such assistants shall have no authority to vary from such requirements.

DRAWING PLANS - Drawing plans may be obtained **free of charge** from the City's on-line strategic sourcing platform.

SURETY BOND – The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2024), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

The successful bidder shall furnish a performance and payment bond in compliance with Section 255.05, Florida Statutes (2024), written by a Corporate Surety company, holding a Certificate of Authority from the Secretary of the Treasury of the United States as acceptable sureties on federal bonds, in an amount equal to the total amount payable by the terms of the contract, executed and issued by a Resident Agent licensed by and having an office in the State of Florida, representing such Corporate Surety, conditioned for the due and faithful performance of the work, and providing in addition to all other conditions, that if the Contractor, or his or its subcontractors, fail to duly pay for any labor, materials, or other supplies used or consumed by such Contractor, or his or its subcontractor or subcontractors, in performance of the work contracted to be done, the Surety will pay the same in the amount not exceeding the sum provided in such bonds, together with interest at the rate of fifteen percent (15%) per annum, and that they shall indemnify and hold harmless the City of Fort Lauderdale to the extent of any and all payments in connection with carrying out of the contract, which the City may be required to make under the law.

The Contractor is required at all times to have a valid surety bond in force covering the work being performed. A failure to have such bond in force at any time shall constitute a default on the part of the Contractor. A bond written by a surety, which becomes disqualified to do business in the State of Florida, shall automatically constitute a failure on the part of the Contractor to meet the above requirements.

Such bond shall continue in effect for one (1) year after completion and acceptance of the work with liability equal to at least twenty-five percent (25%) of contract price, or an additional bond shall be conditioned that the Contractor will correct any defective or faulty work or material which appear within one (1) year after completion of the contract, upon notification by the City, except in contracts which are concerned solely with demolition work, in which cases twenty-five percent (25%) liability will not be applicable.

AUDIT OF CONTRACTOR'S RECORDS - Upon execution of the Contract, the City reserves the right to conduct any necessary audit of the Contractor's records. Such an audit, or audits, may be conducted by the City or its representatives at any time prior to final payment, or thereafter, for a period up to three (3) years. The City may also require submittal of the records from either the Contractor, the Subcontractor, or both. For the purpose of this Section, records shall include all books of account, supporting documents and papers deemed necessary by the City to assure compliance with the contract provisions.

Failure of the Contractor or Subcontractor to comply with these requirements may result in disqualification or suspension from bidding for future contracts or disapproval as a Subcontractor at the option of the City.

The Contractor shall assure that each of its Subcontractors will provide access to its records pertaining to the project upon request by the City.

PERIODIC ESTIMATE FOR PARTIAL PAYMENT - After the Contractor has submitted a periodic estimate for partial payment, approved and certified by the Public Works Department, the City shall make payment in the manner provided in the Contract Documents and in accordance with Florida's Prompt Payment Act, Section 218, Florida Statutes (2024).

RESERVATION FOR AWARD AND REJECTION OF BIDS - The City reserves the right to accept or reject any or all bids, part of bids, and to waive minor irregularities or variations to specifications contained in bids, and minor irregularities in the bidding process. The City also reserves the right to award the contract on a split order basis, lump sum basis, individual item basis, or such combination as shall best serve the interest of the City. The City reserves the right to make an award to the responsive and responsible bidder whose product or service meets the terms, conditions, and specifications of the ITB and whose bid is considered to best serve the City's interest. In determining the responsiveness of the offer and the responsibility of the Bidder, the following shall be considered when applicable: the ability, capacity and skill of the Bidder to perform as required; whether the Bidder can perform promptly, or within the time specified, without delay or interference; the character, integrity, reputation, judgment, experience and efficiency of the Bidder; the quality of past performance by the Bidder; the previous and existing compliance by the Bidder with related laws and ordinances; the sufficiency of the Bidder's financial resources; the availability, quality and adaptability of the Bidder's supplies or services to the required use; the ability of the Bidder to provide future maintenance, service or parts; the number and scope of conditions attached to the bid.

LOCAL BUSINESS PREFERENCE **-** Section 2-186, Code of Ordinances of the City of Fort Lauderdale, provides for a local business preference. In order to be considered for a local business preference, a proposer must include the Local Business Preference Certification Statement of this ITB, as applicable to the local business preference class claimed at the time of Bid submittal:

Upon formal request of the City, based on the application of a Local Business Preference, the Proposer shall, within ten (10) calendar days, submit the following documentation to the Local Business Preference Class claimed:

a. Copy of City of Fort Lauderdale current year business tax receipt, or Broward County current year business tax receipt, and

b. List of the names of all employees of the proposer and evidence of employees' residence within the geographic bounds of the City of Fort Lauderdale or Broward County, as the case may be, such as current Florida driver license, residential utility bill (water, electric, telephone, cable television), or other type of similar documentation acceptable to the City.

Failure to comply at time of bid submittal shall result in the Proposer being found ineligible for the local business preference.

Definitions:

a. The term "Class A business" shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the city, and shall maintain a staffing level for the proposed work of at least fifty percent (50%) who are residents of the City of Fort Lauderdale.

b. The term "Class B business" shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of the city, or shall maintain a staffing level for the proposed work of at least fifty percent (50%) who are residents of the City of Fort Lauderdale.

c. The term "Class C business" shall mean any business that has established and agrees to maintain a permanent place of business located in a non-residential zone, staffed with full-time employees within the limits of Broward County.

c. The term "Class D business" shall mean any business that does not qualify as a Class A, Class B, or Class C business.

The complete local business preference ordinance may be found on the City's web site at the following link:
https://library.municode.com/fl/fort_lauderdale/codes/code_of_ordinances?nodeId=COOR_CH2AD_ARTVFI_DIV2PR_S2-186LOBUPR

DISADVANTAGED BUSINESS ENTERPRISE PREFERENCE - Section 2-185, Code of Ordinances of the City of Fort Lauderdale, provides for a disadvantaged business preference. In order to be considered for a disadvantaged business preference, a proposer must include a certification from a government agency, as applicable to the disadvantaged business preference class claimed at the time of Bid submittal:

Upon formal request of the City, based on the application of a Disadvantaged Business Preference the Proposer shall within ten (10) calendar days submit the following documentation to the Disadvantaged Business Enterprise Preference Class claimed:

a. Copy of City of Fort Lauderdale current year business tax receipt, or the Tri-County (Broward, Dade, West Palm Beach) current year business tax receipt, or proof of active Sunbiz status and

b. List of the names of all employees of the proposer and evidence of employees' residence within the geographic bounds of the City of Fort Lauderdale or the Tri-County, as the case may be, such as current Florida driver license, residential utility

bill (water, electric, telephone, cable television), or other type of similar documentation acceptable to the City.

Failure to comply at time of bid submittal shall result in the Proposer being found ineligible for the Disadvantaged Business Enterprise Preference business preference.

The complete Disadvantaged Business Preference ordinance may be found on the City's website at the following link: https://www.fortlauderdale.gov/home/showpublisheddocument?id=56883

DEBARRED OR SUSPENDED BIDDERS OR PROPOSERS - The bidder or proposer certifies, by submission of a response to this solicitation, that neither it nor its principals and subcontractors are presently debarred or suspended by any Federal department or agency.

LOBBYING ACTIVITIES - **ALL CONTRACTORS PLEASE NOTE**: Any contractor submitting a response to this solicitation must comply, if applicable, with City of Fort Lauderdale Ordinance No. C-11-42 & Resolution No. 07-101, Lobbying Activities. Copies of Ordinance No., C-11-42, and Resolution No. 07-101, may be obtained from the City Clerk's Office at 1 East Broward Boulevard, Suite 444, Fort Lauderdale, Florida 33301.

The Ordinance may also be viewed on the City's website at https://www.fortlauderdale.gov/home/showdocument?id=6036.

-END OF SECTION-

GENERAL CONDITIONS

Unless otherwise modified in the Project's Special Conditions, the following General Conditions shall be part of the Contract:

GC - 01 - DEFINITIONS - The following words and expressions, or pronouns used in their stead, shall wherever they appear in the Contract and the Contract Documents, be construed as follows:

"Addendum" or "Addenda" - shall mean the additional Contract provisions issued in writing, by the Engineer, prior to the receipt of bids.

"Bid" – shall mean the offer or bid of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

"Bidder" – shall mean any person, firm, company, corporation or entity submitting a bid for the Work.

"Bonds" –shall mean bid, performance and payment bonds and other instruments of security, furnished by Contractor and his surety in accordance with the Contract Documents.

"City" – shall mean the City of Fort Lauderdale, Florida, a Florida municipal corporation. In the event the City exercises its regulatory authority as a government body, the exercise of such regulatory authority and the enforcement of any rules, regulations, codes, laws and ordinances shall be deemed to have occurred pursuant to City's authority as a governmental body and shall not be attributable in any manner to the City as a party to this Contract.

"Consultant" – shall mean a person, firm, company, corporation or other entity employed by the City to perform the professional services for the project.

"Contractor" – shall mean the successful Bidder who has been employed by the City to perform the construction and related services for the project.

"Contract Work" - shall mean everything expressed or implied to be required to be furnished and furnished by the Contractor by any one or more of the parts of the Contract Documents referred to in the Contract hereof. In the case of any inconsistency in or between any parts of this Contract, the Project Manager shall determine which shall prevail.

"Design Documents" – shall mean the construction plans and specifications included as part of a Bid Solicitation prepared either by the City or by the Consultant under a separate Agreement with the City.

"Engineer" - shall include the terms "professional engineer" and "licensed engineer" and means a person who is licensed to engage in the practice of engineering under Florida Statute, Chapter 471. An Engineer may be a City employee or a consultant hired by the City.

"Extra Work" - shall mean work other than that required by the Contract.

"Inspector" – shall mean an authorized representative of the City assigned to make necessary inspections of materials furnished by Contractor and of the Work performed by Contractor.

"Notice" - shall mean written notice sent by certified United States mail, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or via fax or email, or by hand delivery with a request for a written receipt of acknowledgment of delivery and shall be served upon the Contractor either personally or to its place of business listed in the Bid.

“Owner” - shall mean the City of Fort Lauderdale.

“Project Manager” - shall mean a professional designated by the City to manage the Project under the supervision and direction of the Public Works Director or designee.

"Public Works Director" – shall mean the Public Works Director of the City of Fort Lauderdale.

"Site" - shall mean the area upon or in which the Contractor's operations are carried out and such other areas adjacent thereto as may be designated as such by the Project Manager.

"Sub-contractor" - shall mean any person, firm, company, corporation or other entity, other than employees of the Contractor, who or which contracts with the contractor, to furnish, or actually furnishes labor and materials, or labor and equipment, or labor, materials and equipment at the site.

"Surety" - shall mean any corporation or entity that executes, as Surety, the Contractor's performance and payment bond securing the performance of this Contract.

GC - 02 - SITE INVESTIGATION AND REPRESENTATION - The Contractor acknowledges that it has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Site, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, field conditions, the type of equipment and facilities needed preliminary to and during the prosecution of the Work and all other matters which can in any way affect the Work or the cost thereof under the Contract Documents.

The Contractor acknowledges that it has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, moisture conditions and all year-round local weather and climate conditions (past and present), and, in reliance on such tests, examination and investigations conducted by Contractor and the Contractor’s experts, has determined that no conditions exist that would in any manner affect the Bid Price and that the project can be completed for the Bid Price submitted.

Any failure by the Contractor to acquaint itself with all the Site conditions shall not relieve Contractor from responsibility for properly estimating the difficulty or cost thereof under the Contract Documents.

GC - 03 - SUBSTITUTIONS - If the Contractor desires to use materials and/or products of manufacturer's names different from those specified in the Contract Documents, the Bidder requesting the substitution shall make written application as described herein. The burden of proving the equality of the proposed substitution rests on the Contractor making the request. To be acceptable, the proposed substitution shall meet or exceed all expressed requirements of the Contract Documents and shall be submitted upon the Contractor's letterhead. The following requirements shall be met in order for the substitution to be considered:

1. Requests for substitution shall be accompanied by such technical data, as the party making the request desires to submit. The Project Manager will consider reports from

reputable independent testing laboratories, verified experience records from previous users and other written information valid in the circumstances; and

2. Requests for substitution shall completely and clearly indicate in what respects the materials and/or products differ from those indicated in the Contract Documents; and

3. Requests for substitution shall be accompanied by the manufacturer's printed recommendations clearly describing the installation, use and care, as applicable, of the proposed substitutions; and

4. Requests for substitution shall be accompanied by a complete schedule of changes in the Contract Documents, if any, which must be made to permit the use of the proposed substitution.

If a proposed substitution is approved by the Project Manager, an addendum will be issued to prospective bidders not less than three (3) working days prior to the date set for opening of bids. Unless substitutions are received and approved as described above, the successful Bidder shall be responsible for furnishing materials and products in strict accordance with the Contract Documents.

GC- 04 – CONSTRUCTION RESOURCES – Contractor shall provide all labor and equipment necessary to complete the installation within a timely manner. Contractor shall provide details as to manpower and equipment to be dedicated to the project in its Work Plan. Contractor is responsible for making arrangements, obtaining and purchasing construction water services if required to complete the work.

GC - 05 - CONTROL OF THE WORK - The Project Manager shall have full control and direction of the Work in all respects. The Project Manager and/or his authorized designee(s) shall, at all times, have the right to inspect the Work and materials. The Contractor shall furnish all reasonable facilities for obtaining such information, as the Project Manager may desire respecting the quality of the Work and materials and the manner of conducting the Work. Should the Contractor be permitted to perform night Work, or to vary the period which work is ordinarily carried on in the daytime, he shall give ample notice to the Project Manager so that proper and adequate inspection may be provided. Such Work shall be done only under such regulations as are furnished in writing by the Project Manager, and no extra compensation shall be allowed to the Contractor therefore. In the event of night work, the Contractor shall furnish such light, satisfactory to the Project Manager, as will ensure proper inspection. Nothing herein contained shall relieve the Contractor from compliance with any and all City ordinances relating to noise or Work during prohibited hours.

GC - 06 - SUB-CONTRACTOR - The Contractor shall not sublet, in whole or any part of the Work without the written consent and approval of the Project Manager. Within ten (10) days after official notification of starting date, the Contractor must submit in writing, to the Project Manager, a list of all Sub-contractors. No Work shall be done by any sub-contractor until such Sub-contractor has been officially approved by the Project Manager. A sub-contractor not appearing on the original list will not be approved without written request submitted to the Project Manager and approved by the Public Works Director. In all cases, the Contractor shall give his personal attention to the Work of the Sub-contractors and the Sub-contractor is liable to be discharged by the Contractor, at the direction of the Project Manager, for neglect of duty, incompetence or misconduct.

Acceptance of any sub-contractor, other person, or organization by the Project Manager shall not constitute a waiver of any right of Project Manager to reject defective Work or Work not in conformance with the Contract Documents.

Contractor shall be fully responsible for all acts and omissions of its Sub-contractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between City and any sub-contractor or other person or organization having a direct contract with Contractor, nor shall it create any obligation on the part of City to pay or to see to the payment of any moneys due to any sub-contractor or other person, or organization, except as may otherwise be required by law.

GC - 07 - QUANTITIES - Contractor recognizes and agrees that the quantities shown on plans and Bid/Price Schedule are estimates only and may vary during actual construction. No change shall be made involving any departure from the general scheme of the Work and that no such change involving a material change in cost, either to the City or Contractor, shall be made, except upon written permission of the City. However, the Project Manager shall have the right to make minor alternations in the line, grade, plan, form or materials of the Work herein contemplated any time before the completion of the same. That if such alterations shall diminish the quantity of the Work to be done, such alterations shall not constitute a claim for damages or anticipated profits. That if such alterations increase the amount of the Work to be done, such increase shall be paid for according to the quantity actually performed and at the unit price or prices stipulated therefore in the Contract. The City shall, in all cases of dispute, determine the amount or quantity of the several kinds of Work which are to be paid for under this Contract, and shall decide all questions relative to the execution of the same, and such estimates and decisions shall be final and binding.

Any Work not herein specified, which might be fairly implied as included in the Contract, of which the City shall judge, shall be done by the Contractor without extra charge. However, such cost increases shall be authorized either by the Public Works Director or designee, or the City Commission based upon the purchasing threshold amounts provided for in Chapter 2 of the City of Fort Lauderdale's Code of Ordinances.

GC - 08 - NO ORAL CHANGES - Except to the extent expressly set forth in the Contract, no change in, or modification, termination or discharge of the Contract in any form whatsoever, shall be valid or enforceable unless it is in writing and signed by the parties charged, therewith or their duly authorized representative.

GC - 09 - PERMITS AND PROTECTION OF PUBLIC – Permits on file with the City and/or those permits to be obtained by the Contractor, shall be considered directive in nature, and will be considered a part of this Contract. A copy of all permits shall be given to the City and become part of the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

Contractor shall secure all permits and licenses required for completing the Project. Contractor will obtain the necessary State, County, and City construction/work permits if required.

The Contractor shall comply with all applicable Codes, Standards, Specifications, etc. related to all aspects of the Project.

Where there are telephones, light or power poles, water mains, conduits, pipes or drains or other construction, either public or private, in or on the streets or alleys, the Work shall be so conducted that no interruption or delay will be caused in the operation or use of the same. Proper written notice shall be given to all affected parties prior to proceeding with the Work.

The Contractor shall not be permitted to interfere with public travel and convenience by grading or tearing up streets indiscriminately, but the Work of constructing the various items in this contract shall proceed in an orderly, systematic and progressive manner.

GC - 10 - DISEASE REGULATIONS - The Contractor shall enforce all sanitary regulations and take all precautions against infectious diseases as the Project Manager may deem necessary. Should any infectious or contagious diseases occur among his employees, he shall arrange for the immediate removal of the employee from the Site and isolation of all persons connected with the Work.

GC - 11 - CONTRACTOR TO CHECK PLANS, SPECIFICATIONS, AND DATA - The Contractor shall verify all dimensions, quantities, and details shown on the plans, supplementary drawings, schedules, and shall notify the Project Manager of all errors, omissions, conflicts and discrepancies found therein within three (3) working days of discovery. Failure to discover or correct errors, conflictions, or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory Work, faulty construction, or improper operation resulting therefrom nor from rectifying such condition at its own expense.

GC - 12 - MATERIALS AND WORKMANSHIP - All material shall be new and the workmanship shall, in every respect, be in conformity with approved modern practice and with prevailing standards of performance and quality. In the event of a dispute, the Project Manager's decision shall be final. Wherever the Plans, Specifications, Contract Documents, or the directions of the Project Manager are unclear as to what is permissible and/or fail to note the quality of any Work, that interpretation will be made by the Project Manager, which is in accordance with approved modern practice, to meet the particular requirements of the Contract.

GC - 13 - SAFEGUARDING MARKS - The Contractor shall safeguard all points, stakes, grade marks, monuments, and benchmarks made or established on the Work, bear the cost of re-establishing same if disturbed, or bear the entire expense of rectifying Work improperly installed due to not maintaining or protecting or for removing without authorization, such established points, stakes and marks. The Contractor shall safeguard all existing and known property corners, monuments and marks not related to the Work and, if required, shall bear the cost of having them re-established by a licensed Professional surveyor registered in the State of Florida if disturbed or destroyed during the course of construction.

GC - 14 - RESTROOM FACILITIES - Contractor shall provide portable toilet facilities for employee's use at a location within the Work site to be determined by the City.

GC - 15 - PROGRESS MEETINGS - Weekly Status meetings will be conducted with representatives from the City and the Contractor. Contractor shall budget time to participate in such meetings. A well-run Project should result in short meetings.

GC - 16 - ISSUE RESOLUTION - Should Contractor become engaged in a dispute with a resident or a City employee, the Contractor shall report the situation to the Project Manager immediately. It shall be mandatory that the City participate in any dispute resolution. Failure of Contractor personnel to notify the City shall obligate Contractor to replace the offending employee immediately if requested by the City.

GC - 17 - CITY SECURITY-CONTRACTOR AND SUBCONTRACTOR EMPLOYEE INFORMATION - Prior to commencing work, Contractor shall provide to the City a list of all personnel and sub-contractors on site. The list will include the name, address, birth date and driver's license number for all personnel. All personnel and subcontractors on site will have on their person a company

photo ID during all stages of the construction. Contractor shall provide standard required personal information per current City procedures.

GC - 18 - POST-CONSTRUCTION SURVEY - The Contractor shall provide as-built survey, sealed and signed by a registered surveyor in the State of Florida, as a condition of final payment.

GC – 19 - KEY PERSONNEL - Contractor shall provide as part of the Work Plan, resumes for all key project personnel providing supervision and project management functions. Resumes shall include work history and years of experience performing this type of work.

GC - 20 - EXISTING UTILITY SERVICE - All existing utility service shall be maintained with a minimum of interruption at the expense of the Contractor.

GC - 21 - JOB DESCRIPTION SIGNS – Contractor, at Contractor's expense, shall furnish, erect, and maintain suitable weatherproof signs on jobs over $100,000 containing the following information:

1. City Seal (in colors)
2. Project or Improvement Number
3. Job Description
4. Estimated Cost
5. Completion Date

Minimum size of sign shall be four feet high, eight feet wide and shall be suitably anchored. The entire sign shall be painted and present a pleasing appearance. Exact location of signs will be determined in the field. Two (2) signs will be required, one at each end of the job. All costs of this work shall be included in other parts of the work.

GC - 22 - FLORIDA EAST COAST RIGHT-OF-WAY - Whenever a City contractor is constructing within the Florida East Coast Railway Company's Right-of-Way, it will be mandatory that the contractor carry bodily injury and property damage insurance in amounts satisfactory to the Florida East Coast Company. This insurance requirement shall be verified by the contractor with the Florida East Coast Company prior to commencing work, and maintained during the life of the Contract.

GC - 23 - ACCIDENTS - The Contractor shall provide such equipment and facilities as are necessary and/or required, in the case of accidents, for first aide services to be provided to a person who may be injured during the project duration. The Contractor shall also comply with the OSHA requirements as defined in the United States Labor Code 29 CFR 1926.50.

In addition, the Contractor must report immediately to the Project Manager every accident to persons or damage to property, and shall furnish in writing full information, including testimony of witnesses regarding any and all accidents.

GC - 24 - SAFETY PRECAUTIONS - Contractor must adhere to the applicable environmental protection guidelines for the duration of a project. If hazardous waste materials are used, detected or generated at any time, the Project Manager must be immediately notified of each and every occurrence. The Contractor shall comply with all codes, ordinances, rules, orders and other legal requirements of public authorities (including OSHA, EPA, DERM, the City, Broward County, State of Florida, and Florida Building Code), which bear on the performance of the Work.

The Contractor shall take the responsibility to ensure that all Work is performed using adequate safeguards, including but not limited to: proper safe rigging, safety nets, fencing, scaffolding, barricades, chain link fencing, railings, barricades, steel plates, safety lights, and ladders that are

necessary for the protection of its employees, as well as the public and City employees. All riggings and scaffolding shall be constructed with good sound materials, of adequate dimensions for their intended use, and substantially braced, tied or secured to ensure absolute safety for those required to use it, as well as those in the vicinity. All riggings, scaffolding, platforms, equipment guards, trenching, shoring, ladders and similar actions or equipment shall be OSHA approved, as applicable, and in accordance with all Federal, State and local regulations.

GC - 25 - DUST PREVENTION - The Contractor shall, by means of a water spray, or temporary asphalt pavement, take all necessary precautions to prevent or abate a dust nuisance arising from dry weather or Work in an incomplete stage. All costs of this Work shall be included in the cost of other parts of the Work.

Should the Contractor fail to abate a dust nuisance the Project Manager may stop the Work until the issue is resolved to the City's satisfaction.

GC - 26 - SITE CLEANUP AND RESTORATION – The Contractor shall remove all debris and unused or discarded materials from the work site daily. Contractor shall clean the work site to remove all directional drilling "Driller's Mud" materials. No "Driller's Mud" residue shall be allowed to remain in the soil or on the surface of the land or vegetation. All debris and drilling materials must be disposed of offsite at an approved location.

The Contractor shall promptly restore all areas disturbed that are outside the Project limits in equal or better condition at no additional cost to the City.

GC - 27 - COURTEOUS BEHAVIOR AND RESPECT FOR RESIDENTS AND PROPERTY – The Contractor and its employees, associates and sub-contractors shall maintain courteous behavior at all times and not engage in yelling, loud music, or other such activities. Contractor's employees shall not leave trash or other discarded items at the Work Site, especially on any private property. In the event complaints arise, Contractor shall immediately remove such offending employees from the project if requested to do so by the Project Manager. Contractor's employees shall not trespass on any private property unless necessary to complete the work but with prior permission from the owner.

Contractor shall notify and obtain permission from the residents 24 hours in advance when planning to work within the resident's property. In addition, Contractor shall notify the resident prior to entering their property to perform work or inspect/investigate the work site. Contractor shall not block residents' driveways unnecessarily. Contractor shall not park equipment on landscaped areas when the vehicle is not needed for the current construction activities. Contractor shall be responsible for repair and/or replacement of all damaged landscaping within 48 hours including repairing vehicle wheel impressions, irrigation systems, lighting systems, structures, or any other items of resident's property. Contractor shall not destroy, damage, remove, or otherwise negatively impact any landscaping within or outside the right-of-way without prior approval from the Project Manager.

GC - 28 - PLACING BARRICADES AND WARNING LIGHTS - The Contractor shall furnish and place, at Contractor's own expense, all barricades, warning lights, automatic blinker lights and such devices necessary to properly protect the work and vehicular and pedestrian traffic. Should the Contractor fail to erect or maintain such barricades, warning lights, etc., the Project Manager may, after 24 hours' notice to the Contractor, proceed to have such barricades and warning lights placed and maintained by City or other forces and all costs incurred thereof charged to the Contractor and may be retained by the City from any monies due, or to become due, to the Contractor.

GC - 29 - TRAFFIC CONTROL - The Contractor shall coordinate all Work and obtain, through the City's Transportation and Mobility Department, Broward County, Florida Department of

Transportation, as applicable, any permits required to detour traffic or close any street before starting to work in the road.

All traffic control devices, flashing lights, signs and barricades shall be maintained in working condition at all times and conform to Manual of Uniform Traffic Control Devices (MUTCD), latest edition.

GC - 30 - COORDINATION - The Contractor shall notify all utilities, transportation department, etc., in writing, with a copy to the Project Manager before construction is started and shall coordinate its Work with them. The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal, construction and rearrangement operations in order that services rendered by these parties will not be unnecessarily interrupted.

The Contractor shall arrange its Work and dispose of its materials so as to not interfere with the operation of other contractors engaged upon adjacent work, and to join its Work to that of others in a proper manner, and to perform its Work in the proper sequence in relation to that of other contractors as may be directed by the Project Manager.

Each Contractor shall be responsible for any damage done by it or its agents to the work performed by another contractor.

GC - 31 - WATER - Bulk water used for construction, flushing pipelines, and testing shall be obtained from fire hydrants. Contractor shall make payment for hydrant meter at Treasury Billing Office, 1st Floor, City Hall, 100 N. Andrews Avenue. With the paid receipt, contractor can pick up hydrant meter at the utility location office. No connection shall be made to a fire hydrant without a meter connected.

GC - 32 - PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES - Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities Iran Terrorism Sectors List, created pursuant to Section 215.473, Florida Statutes (2024), as may be amended or revised, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2024), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2024), as may be amended or revised, and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2024), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List, or been placed on a list created pursuant to Section 215.473, Florida Statutes (2024), as may be amended or revised, relating to scrutinized active business operations in Iran , or been placed on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2024), as may be amended or revised, or is engaged in a boycott of Israel, or has been engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2024), as may be amended or revised.

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

GC - 33 - USE OF FLORIDA LUMBER TIMBER AND OTHER FOREST PRODUCTS - In accordance with Florida Statute 255.20 (3), the City specifies that lumber, timber, and other forest products used for this Project shall be produced and manufactured in the State of Florida if such products are available and their price, fitness, and quality are equal. This requirement does not apply to plywood specified for monolithic concrete forms, if the structural or service requirements for timber for a particular job cannot be supplied by native species, or if the construction is financed in whole or in part from federal funds with the requirement that there be no restrictions as to species or place of manufacture.

The Bidder affirms by submitting a bid response to this solicitation that they will comply with section 255.20 (3) Florida Statutes.

GC - 34 - PUBLIC RECORDS/TRADE SECRETS/COPYRIGHT: The Proposer's response to the Solicitation is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this Solicitation and the Contract to be executed for this Solicitation, subject to the provisions of Chapter 119.07 of the Florida Statutes.

Any language contained in the Bidder's response to the Solicitation purporting to require confidentiality of any portion of the Bidder's response to the Solicitation, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Bidder submits any documents or other information to the City which the Bidder claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Bidder shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Bidder must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Bidder's response to the Solicitation constitutes a Trade Secret. The City's determination of whether an exemption applies shall be final, and the bidder agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agent, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as public records. In addition, the bidder agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as exempt from disclosure or confidential. Bids purporting to be subject to copyright protection in full or in part will be rejected. The bidder authorizes the City to publish, copy, and reproduce any and all documents submitted to the City bearing copyright symbols or otherwise purporting to be subject to copyright protection.

EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES (2024), TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

Telephone Number: **(954) 828-5002**

Mailing Address: **City Clerk's Office**
1 East Broward Boulevard, Suite 444

Fort Lauderdale, FL 33301

E-mail: **prrcontract@fortlauderdale.gov**

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2022), as may be amended or revised, or as otherwise provided by law.

3. Ensure that public records that 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 completion of this Agreement if the Contractor does not transfer the records to the City.

4. Upon completion of the Agreement, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Agreement, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Agreement, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

GC – 35 - ANTI-HUMAN TRAFFICKING, KIDNAPPING, CUSTODY AND RELATED OFFENSES - Bidder, proposer, quoter, or any other respondent to any City solicitation/notice or serving as a City consultant, contractor, vendor or otherwise entering into any contract (including, without limitation, contract renewal, extension, amendment as applicable) with the City affirms and stipulates that it is not in violation of Section 787.06(13) of the 2024 Florida Statutes entitled "Kidnapping; Custody Offenses; Human Trafficking and Related Offenses." The entity (which includes any business entity however formed/ incorporated) intending to provide goods or services by submitting a response to a city solicitation further affirms to the City as a governmental entity defined in Section 287.138(1) of the 2024 Florida Statutes that it does not use coercion for labor or services as defined in Section 787.06 of the 2024 Florida Statutes.

GC – 36 - E-VERIFY

In accordance with 448.095, Florida Statutes (2024), as may be amended or revised, the Contractor and its subcontractors shall register with and use the E-Verify system to electronically verify the employment eligibility of newly hired employees.

1. The Contractor shall require each of its subcontractors, if any, to provide the Contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. The Contractor shall maintain a copy of the subcontractor's affidavit for the duration of this Agreement and in accordance with the public records requirements of this Agreement.

2. The City, the Contractor, or any subcontractor who has a good faith belief that a person or entity with which it is contracting has knowingly violated Subsection 448.09(1), Florida Statutes (2024), as may be amended or revised, shall terminate the contract with the person or entity.

3. The City, upon good faith belief that a subcontractor knowingly violated the provisions of Subsection 448.095(5), Florida Statutes (2024), as may be amended or revised, but that the Contractor otherwise complied with Subsection 448.095(5), Florida Statutes (2024), as may be amended or revised, shall promptly notify Contractor and order the Contractor to immediately terminate the contract with the subcontractor, and the Contractor shall comply with such order.

4. A contract terminated under Subparagraph 448.095(5)(c)1. or 2., Florida Statutes (2024), as may be amended or revised, is not a breach of contract and may not be considered as such. If the City terminates this contract under Paragraph 448.095(5)(c), Florida Statutes (2024), as may be amended or revised, the Contractor may not be awarded a public contract for at least one year after the date on which the contract was terminated. The Contractor is liable for any additional costs incurred by the City as a result of termination of this Agreement.

5. Contractor shall include in each of its subcontracts, if any, the requirements set forth in this Section, including this subparagraph, requiring any and all subcontractors, as defined in Subsection 448.095(1)(e), Florida Statutes (2024), as may be amended or revised, to include all of the requirements of this Section in their subcontracts. Contractor shall be responsible for compliance by any and all subcontractors, as defined in Subsection 448.095(1)(e), Florida Statutes (2024), as may be amended or revised, with the requirements of Section 448.095, Florida Statutes (2024), as may be amended or revised.

-END OF SECTION-

SPECIAL CONDITIONS

01. PURPOSE

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified, experienced, and licensed firm(s), hereinafter referred to as the Contractor, Bidder, or Proposer, to provide streetscape improvements at NW 5th Avenue for the City, in accordance with the terms, conditions, and specifications contained in this Invitation to Bid (ITB).

02. TRANSACTION FEES

The City uses the City's on-line strategic sourcing platform INFOR, to distribute and receive bids and proposals. There is no charge to vendors/contractors to register and participate in the solicitation process, nor will any fees be charged to the awarded contractor.

03. SUBMISSION OF BIDS

It is the sole responsibility of the Contractor to ensure that its bid is submitted electronically through the City's on-line strategic sourcing platform, and that any bid security reaches the City of Fort Lauderdale, Procurement Services Division, 101 North East 3rd Avenue, Suite 1650, Fort Lauderdale, Florida 33301-1016, in a sealed envelope marked on the outside with the ITB solicitation number and Contractor's name, no later than the time and date specified in this solicitation. **PAPER BID SUBMITTALS WILL NOT BE ACCEPTED. PLEASE SUBMIT YOUR BID RESPONSE ELECTRONICALLY.** In the event of any conflict or discrepancy between bid price(s) submitted by bidder electronically into the City's online strategic sourcing platform Unit Price field(s), any other forms or attachments (whether part of the City's solicitation documents or documents created and uploaded by the bidder, or another section/field of the System, the online unit price(s) **inputted** electronically into the System by the bidder shall govern.

04. INFORMATION OR CLARIFICATION

For information concerning procedures for responding to this solicitation, contact Senior Procurement Specialist Erick Martinez at (954) 828-4019 or email at emartinez@fortlauderdale.gov. Such contact shall be for clarification purposes only.

For information concerning technical specifications, please utilize the question / answer feature provided by the City's on-line strategic sourcing platform. Questions of a material nature must be received prior to the cut-off date specified in the solicitation. Material changes, if any, to the scope of services or bidding procedures will only be transmitted by written addendum. Contractors please note: Bids shall be submitted as stated in PART IV – Submittal Requirements. No part of your proposal can be submitted via FAX. No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the Contractor has familiarized themselves with the nature and extent of the work, and the equipment, materials, and labor required. The entire bid response must be submitted in accordance with all specifications contained in this solicitation. The questions and answers submitted in the City's on-line strategic sourcing platform shall become part of any contract that is created from this ITB.

05. CONTRACT TIME

5.1 The Contractor recognizes that TIME IS OF THE ESSENCE. The Work shall commence within **TWENTY-ONE (21)** calendar days of the date of the Notice to Proceed.

5.2 The Work shall be Substantially Completed within **ONE HUNDRED EIGHTY-FOUR (184)** calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.

5.3 The Work shall be finally completed on the Final Completion Date and ready for final payment in accordance with this Agreement within **TWO HUNDRED FOURTEEN (214)** calendar days after the Contract Time commences to run as provided in the Notice to Proceed.

06. BID SECURITY

A certified check, cashier's check, bank officer's check or bid bond for **FIVE percent (5%)** of the bid amount, made payable to the City of Fort Lauderdale, shall accompany each offer.

07. REQUIRED LICENSES/CERTIFICATIONS

Contractor must possess the following licenses/certifications to be considered for award:

State of Florida Certified General Contractor license

OR

Any other State or County License(s), Certification(s) or Registration(s) deemed legally permissible by the City to conduct the nature of the work required in this solicitation.

Any sub-contractors employed by the Proposer shall be licensed and insured in accordance with this solicitation. Additionally, it is the Proposer's responsibility for ensuring that any sub-contractors' work meets the requirements of this solicitation at all times.

Note: Contractor must have proper licensing and shall submit evidence of same with its bid response.

08. SPECIFIC EXPERIENCE REQUIRED

The following expertise is required to be considered for this Contract. Specific references attesting to this expertise must be submitted with the bid response.

The contractor shall have at least five (5) years previous construction experience in provide streetscape improvement services, in the State of Florida. Bidder shall submit proof of construction experience for a minimum of three (3) projects of similar scope and scale (or larger) and shall, for each project listed, identify location; dates of construction; project name and overall scope; scope of work that was self-performed by Contractor; and client's name, address, telephone number and e-mail address.

NOTE: REFERENCES SHALL INCLUDE ONLY ONE (1) CITY OF FORT LAUDERDALE EMPLOYEE OR WORK PERFORMED FOR THE CITY. THE CITY IS ALSO INTERESTED IN WORK EXPERIENCE AND REFERENCES FROM ENTITIES OTHER THAN THE CITY OF FORT LAUDERDALE.

By signing this bid solicitation, contractor is affirming that this expertise will be provided for this Contract at no additional charge.

09. BID ALLOWANCES AND CONTINGENCIES

Allowance for permits: Payments will be made to the contractor based on the actual cost of permits upon submission of paid permit receipts. The City shall not pay for other costs related to obtaining or securing permits.

The amount indicated is intended to be sufficient to cover the entire Project. If the City's permit fees exceed the allowance indicated, the City will reimburse the contractor the actual amount of the City's permit fees required for project completion.

Allowances	**Amount**
Permits, Licenses, and Fee for Government Agencies	$20,000.00
TOTAL:	**$20,000.00**
Contingencies	**Amount**
Contingencies	$93,000.00
TOTAL:	**$93,000.00**

10. INSURANCE REQUIREMENTS *(See Article 10, Bonds and Insurance, of the Contract for details)*

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, Contractor shall, at its sole expense, provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of Contractor. Contractor shall provide the City a certificate of insurance evidencing such coverage. Contractor's insurance coverage shall be primary insurance for all applicable policies, in respect to the City's interests for this Agreement. The limits of coverage under each policy maintained by Contractor shall not be interpreted as limiting Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by Contractor for assessing the extent or determining appropriate types and limits of coverage to protect Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Contractor under this Agreement.

The following insurance policies and coverages are required:

<u>Commercial General Liability</u>
Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $2,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $2,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipality, its officials, employees, and volunteers are to be included as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of Contractor.

The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Business Automobile Liability
Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

If Contractor does not own vehicles, Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

Workers' Compensation and Employer's Liability
Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

Contractor waives, and Contractor shall ensure that Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

Contractor must be in compliance with all applicable State and federal workers' compensation laws.

Insurance Certificate Requirements

a. Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.

b. Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.

c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.

d. In the event the Agreement term or any surviving obligation of Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.

e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.

f. The City shall be included as an Additional Insured on all liability policies, with the exception of Workers' Compensation.

g. The City shall be granted a Waiver of Subrogation on Contractor's Workers' Compensation insurance policy.

h. The title of the Agreement, Bid/Contract number, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:
City of Fort Lauderdale
c/o Procurement Services Division
401 SE 21st Street
Fort Lauderdale, FL 33316

Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the application of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for including the City as an Additional Insured shall be at Contractor's expense.

If Contractor's primary insurance policy/policies do not meet the minimum requirements as set forth in this Agreement, Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

Contractor's insurance coverage shall be primary insurance in respect to the City's interests for this Agreement, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the Agreement work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage may be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate of insurance should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to Contractor's insurance company or companies and the City's Risk Management office as soon as practical.

It is Contractor's responsibility to ensure that any and all of Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of Contractor. The City reserves the right to adjust insurance limits from time to time at its discretion with notice to Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORT LAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

A Sample Insurance Certificate shall be included with the bid to demonstrate the firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the insurance companies' names for all required coverage, and the dollar amounts of the coverage.

11. PERFORMANCE AND PAYMENT BOND: 100%

12. CITY PROJECT MANAGER

The Project Manager is hereby designated by the City as Brightny Dorelus whose address is 101 NE 3rd Ave,21st Floor, Fort Lauderdale, FL 33301, telephone number: (954) 828-6885, and e-mail address is bdorelus@fortlauderdale.gov. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

13. LIQUIDATED DAMAGES *(See Article 16, Liquidated Damages, of the Contract for details)*

Upon failure of the Contractor to complete the Work within the time specified for completion, the Contractor shall pay to the City the sum of **Two Hundred Dollars ($200.00)** for each and every calendar day that the completion of the Work is delayed beyond the time specified in this Agreement for completion, as fixed and agreed liquidated damages and not as a penalty, so long as the delay is caused by the Contractor. (See sample Agreement, Article 16, Liquidated Damages)

14. PAYMENT (*See Article 7, Payment, of the Contract for other details*)

The City shall make payment to the Contractor through utilization of the City's P-Card Program. The City has implemented a Purchasing Card (P-Card) Program utilizing both the VISA and MASTERCARD networks. Purchases from this contract will be made utilizing the City's Purchasing Card. Contractor will receive payment from the purchasing card in the same manner as other credit card purchases. Accordingly, Contractor must presently have the ability to accept these credit cards or take whatever steps necessary to implement the ability before the start of the contract term, or contract award by the City. All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

PCI (Payment Card Industry) Compliance

Contractor agrees to comply with all applicable state, federal and international laws, as well as industry best practices, governing the collection, access, use, disclosure, safeguarding and destruction of Protected Information.

Contractor and/or any subcontractor that handles credit card data must be, and remain, PCI compliant under the current standards and will provide documentation confirming compliance upon request by the City of Fort Lauderdale, failure to produce documentation could result in termination of the contract.

15. WORK SCHEDULE (including overtime hours):

Regular work hours: **8:00 am to 5:00 pm, Monday through Friday.**
City Inspector Hours: **8:00 am to 4:30 pm, Monday through Friday.**

Any inspection requested by the contractor outside those hours will be considered overtime to be paid by the Contractor.

16. INSPECTION OVERTIME COST: $100/hr.

-END OF SECTION-

CITY OF FORT LAUDERDALE
CONSTRUCTION AGREEMENT

THIS CONSTRUCTION AGREEMENT ("Agreement") made and entered into this _____ day of _____, 2025, by and between the City of Fort Lauderdale, a Florida municipal corporation ("City") and _____, a Florida company/corporation ("Contractor"), ("Party" or collectively "Parties");

WHEREAS, the City desires to retain a contractor for the Project as expressed in its Invitation to Bid No. 525, Project Number P12507, which was opened on _____; and

WHEREAS, the Contractor has expressed its willingness and capability to perform the necessary work to accomplish the Project; and

NOW, THEREFORE, the City and the Contractor, in consideration of the mutual covenants and conditions contained herein and for other good and valuable consideration, the receipt and sufficiency is hereby acknowledged, agree as follows:

ARTICLE 1 – DEFINITIONS

Whenever used in this Agreement or in other Contract Documents, the following terms have the meanings indicated which are applicable to both the singular and plural forms:

1.1 Agreement – This written Agreement between the City and the Contractor covering the work to be performed including other Contract Documents that are attached to or incorporated in the Agreement.

1.2 Application for Payment – The form accepted by the City which is to be used by the Contractor in requesting progress or final payment and which is to include such supporting documentation as is required by the Contract Documents.

1.3 Approve – The word approve is defined to mean review of the material, equipment or methods for general compliance with design concepts and with the information given in the Contract Documents. It does not imply a responsibility on the part of the City to verify in every detail conformance with plans and specifications.

1.4 Bid – The offer or Bid of the Contractor submitted on the prescribed form setting forth the total prices for the Work to be performed.

1.5 Bid Documents – Advertisement for Invitation to Bids, the Instructions to Bidders, the Bid Form (with supplemental affidavits and sample agreements), the Contract Forms, General Conditions, the Supplementary Conditions, the Specifications, and the Plans, which documents all become an integral part of the Contract Documents.

1.6 Certificate of Substantial Completion - Certificate provided by the City certifying that all Work, excluding the punch list items, has been completed, inspected, and accepted by the City.

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1.7 Change Order - A written document executed by both Parties ordering a change in the Contract Price or Contract Time or a material change in the Work.

1.8 City – The City of Fort Lauderdale, Florida, including but not limited to its employees, agents, officials, representatives, contractors, subcontractors, and volunteers, with whom the Contractor has entered into the Agreement and for whom the Work is to be provided.

1.9 Contract Documents – The Contract Documents shall consist of this Agreement, Exhibits to this Agreement, Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance, Notice of Award and Notice to Proceed, General Conditions, Special Conditions, Technical Specifications, Plans/Drawings, Addenda, Bid Form and supplement Affidavits and Agreements, all applicable provisions of State and Federal Law and any modification, including Change Orders or written amendments duly delivered after execution of Agreement, Invitation to Bid, Instructions to Bidders and Bid Bond, Contractor's response to the City's Invitation to Bid, Schedule of Completion, Schedule of Values, all amendments, modifications and supplements, work directive changes issued on or after the Effective Date of the Agreement, as well as any additional documents that are required to be submitted under the Agreement.

Permits on file with the City and/or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement. A copy of all permits shall be given to the City for inclusion in the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

1.10 Contract Price – The amount established in the bid submittal and award by the City's City Commission, as may be amended by Change Order.

1.11 Contract Time – The number of calendar days stated in the Agreement for the completion of the Work. The dates on which the work shall be started and shall be completed as stated in the Notice to Proceed.

1.12 Contractor – The person, firm, company, or corporation with whom the City has entered into the Agreement, including but not limited to its employees, agents, representatives, contractors, subcontractors, their subcontractors and their other successors and assigns.

1.13 Day – A calendar day of twenty-four (24) hours ending at midnight.

1.14 Defective – When modifying the word "Work" refers to work that is unsatisfactory, faulty, or deficient, or does not conform to the Contract Documents or does not meet the requirements of any inspection, test or approval referred to in the Contract Documents, or has been damaged prior to the Project Manager's recommendation of final payment.

1.15 Effective Date of the Agreement – The effective date of the Agreement shall be the date the City Commission approves the Agreeement.

1.16 Final Completion Date – The date the Work is completed, including completion of the final punch list, and delivered along with those items specified in the Contract Documents and is accepted by the City.

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1.17 Hazardous Materials (HAZMAT) - Any solid, liquid, or gaseous material that is toxic, flammable, radioactive, corrosive, chemically reactive, or unstable upon prolonged storage in quantities that could pose a threat to life, property, or the environment defined in Section 101(14) of Comprehensive Environmental Response, Compensation and Liability Act of 1980 and in 40 CFR 300.6. Also defined by 49 CFR 171.8 as a substance or material designated by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.

1.18 Hazardous Substance - As defined by Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act; any substance designated pursuant to Section 311(b) (2) (A) of the Clean Water Act; any element, compound, mixture, solution or substance designated pursuant to Section 102 identified under or listed pursuant to Section 3001 of the Solid Waste Disposal Act {but not including any waste listed under Section 307[a] of the Clean Water Act}; any hazardous air pollutant listed under Section 112 of the Clean Air Act; and any imminently hazardous chemical substance or mixture pursuant to Section 7 of the Toxic Substances Control Act. The term does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance in the first sentence of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).

1.19 Hazardous Waste - Those solid wastes designated by OSHA in accordance with 40 CFR 261 due to the properties of ignitability, corrosivity, reactivity, or toxicity. Any material that is subject to the Hazardous Waste Manifest requirements of the EPA specified in 40 CFR Part 262.

1.20 Holidays - Those designated non-workdays as established by the City Commission of the City of Fort Lauderdale.

1.21 Inspection – The term “inspection” and the act of inspecting as used in this Agreement is defined to mean the examination of construction to ensure that it conforms to the design concept expressed in the plans and specifications. This term shall not be construed to mean supervision, superintending and/or overseeing.

1.22 Notice of Award - The written notice by City to the Contractor stating that upon compliance by the Contractor with the condition’s precedent enumerated therein, within the time specified that the City will sign and deliver this Agreement.

1.23 Notice to Proceed – A written notice to Contractor authorizing the commencement of the activities identified in the notice or as described in the Contract Documents.

1.24 Plans - The official graphic representations of this Project that are a part of the Contract Documents.

1.25 Premises (otherwise known as Site or Work Site) – means the land, buildings, facilities, etc. upon which the Work is to be performed.

1.26 Project – The construction project described in the Contract Documents, including the

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Work described therein.

1.27 Project Manager - The employee of the City, or other designated individual who is herein referred to as the Project Manager, will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement. The Project Manager, or designee, shall be the authorized agent for the City unless otherwise specified.

1.28 Punch List - The City's list of Work yet to be done or be corrected by the Contractor, before the Final Completion date can be determined by the City.

1.29 Record Documents - A complete set of all specifications, drawings, addenda, modifications, shop drawings, submittals and samples annotated to show all changes made during the construction process.

1.30 Record Drawings or "As-Builts" - A set of drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the Contractor. These documents will be signed and sealed by a Professional Engineer, or a Professional Land Surveyor licensed in the State of Florida and employed by the Contractor at no cost to the City.

1.31 Substantially Completed Date – A date when written notice is provided by the City to the Contractor stating that the Work is substantially completed. If, at the time of inspection, it is determined the project is substantially completed, the City will also issue a letter of Substantial Completion along with a punch list of incomplete or deficient items to be completed prior to requesting a Final Completion inspection.

1.32 Work – The construction and services required by the Contract Documents, whether completed or partially completed, and includes all labor, materials, equipment, and services provided or to be provided by Contractor to fulfill Contractor's obligations. The Work may constitute the whole or a part of the Project.

ARTICLE 2 – SCOPE OF WORK

2.1 The Contractor shall complete all Work as specified or indicated in the Contract Documents. The Project for which the Work under the Contract Documents may be the whole or only part is generally described as follows:

NW 5th Avenue Streetscape Improvements
ITB #525 PROJECT # P12507

2.2 All Work for the Project shall be constructed in accordance with the approved plans and Specifications. The Work generally involves:

PROJECT DESCRIPTION

The City of Fort Lauderdale, Florida (City) is seeking bids from qualified bidders, hereinafter referred to as the Contractor, to provide services for the City's Public Works Department, in

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accordance with the terms, conditions, and specifications contained in this Invitation to Bid (ITB).

The intent of the Project is to improve walkability and connectivity by providing new concrete sidewalks, pedestrian seating areas, decorative crosswalks, site furnishings, landscape and irrigation improvements, curb and gutter improvements, signing and marking improvements, milling and resurfacing of the existing asphalt.

2.3 Within ten (10) days of the execution of this Agreement, the Contractor shall submit a Construction Schedule, Schedule of Values and a listing of all personnel employed. The general sequence of the Work shall be submitted by the Contractor and approved by the City before any work commences. The City reserves the right to issue construction directives necessary to facilitate the Work or to minimize any conflict with operations.

ARTICLE 3 – PROJECT MANAGER

3.1 The Project Manager is hereby designated by the City as Brightny Dorelus, whose address is 101 NE 3rd Ave, 21st Floor, Fort Lauderdale, FL 33301, telephone number: (954) 828-6885, and email address is Bdorelus@fortlauderdale.gov. The Project Manager will assume all duties and responsibilities and will have the rights and authorities assigned to the Project Manager in the Contract Documents in connection with completion of the Work in accordance with this Agreement.

ARTICLE 4 – CONTRACT DOCUMENTS

The Contract Documents, include this Agreement and the following documents listed below which comprise the entire Agreement between the City and Contractor, and these documents listed below are hereby incorporated herein, even if they are not attached to this Agreement. The Contract Documents consist of the following:

4.1 This Agreement.

4.2 Exhibits to this Agreement: (Plans sheets [ ] to [ ] inclusive).

4.3 Public Construction Bond, Performance Bond, Payment Bond and Certificates of Insurance.

4.4 Notice of Award and Notice to Proceed.

4.5 General Conditions and Special Conditions.

4.6 Technical Specifications.

4.7 Plans/Drawings.

4.8 Addenda number _____ through _____, inclusive.

4.9 Bid Form and supplement Affidavits and Agreements.

4.10 All applicable provisions of State and Federal Law.

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4.11 Invitation to Bid No. 525, Instructions to Bidders, and Bid Bond.

4.12 Contractor's response to the City's Invitation to Bid No. 525, dated _____.

4.13 Schedule of Completion.

4.14 All amendments, modifications and supplements, change orders and work directive changes, issued on or after the Effective Date of the Agreement.

4.15 Any additional documents that are required to be submitted under the Agreement.

4.16 Permits on file with the City and or those permits to be obtained shall be considered directive in nature and will be considered a part of this Agreement.

4.17 Foreign Entity Affidavit.

4.18 Kidnapping and Custody Affidavit.

In the event of any conflict between the documents or any ambiguity or missing specification or instruction, the following priority is established:

a. Approved change orders, addenda or amendments.

b. Specifications and Drawings.

c. Special Conditions.

d. General Conditions.

e. This Agreement dated _____, and any attachments.

f. Invitation to Bid No. 525, and the specifications prepared by the City.

g. Contractor's response to the City's Invitation to Bid No. 525, dated _____.

h. Schedule of Values.

i. Schedule of Completion.

If during the performance of the Work, Contractor finds a conflict, error or discrepancy in the Contract Documents, Contractor shall so report to the Project Manager, in writing, within five (5) calendar days, and before proceeding with the Work affected shall obtain a written interpretation or clarification from the City.

Any Work that may reasonably be inferred from the specifications or plans as being required to produce the intended result shall be supplied whether or not it is specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials, or equipment, such works shall be interpreted in accordance with such meaning. Reference to standard specifications, manuals or codes of any technical society, organization

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or associations, or to the code of any governmental authority whether such reference be specific or implied, shall mean the latest standard specification, manual or code in effect as of the Effective Date of this Agreement, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code (whether or not specifically incorporated by reference in the Contract Documents) shall change the duties and responsibilities of the City, the Contractor, or any of their agents or employees from those set forth in the Contract Documents.

ARTICLE 5 – CONTRACT TIME

5.1 The Contractor recognizes that **TIME IS OF THE ESSENCE**. The Work shall commence within **TWENTY-ONE (21)** calendar days of the date of the Notice to Proceed.

5.2 The Work shall be Substantially Completed within **ONE HUNDRED EIGHTY-FOUR (184)** calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.

5.3 The Work shall be finally completed on the Final Completion Date and ready for final payment in accordance with this Agreement within **TWO HUNDRED FOURTEEN (214)** calendar days after the date when the Contract Time commences to run as provided in the Notice to Proceed.

ARTICLE 6 – CONTRACT PRICE

6.1 City shall pay Contractor for performance of the Work in accordance with Article 7, subject to additions and deletions by Change Order, as provided for in this Agreement.

6.2 The Parties expressly agree that the Contract Price, which shall not exceed the amount of $_____, constitutes the total maximum compensation payable to Contractor for performing the Work, plus any Work done pursuant to a Change Order. The Contract Price is in accordance with the line items unit prices listed in the Bid. Line items are based on a unit price cost multiplied by a defined quantity. Any additional duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change to the Contract Price.

6.3 The Contract Price constitutes the compensation payable to Contractor for performing the Work plus any Work done pursuant to a Change Order. All duties, responsibilities and obligations assigned to or undertaken by Contractor shall be at Contractor's expense without change in the Contract Price.

ARTICLE 7 – PAYMENT

7.1 Contractor shall submit Applications for Payment in accordance with the Contract Documents. Applications for Payment will be processed by City as provided for in the General Conditions.

7.2 Progress Payments. City shall make progress payments on account of the Contract Price on the basis of Contractor's monthly Applications for Payment, which shall be submitted by the Contractor between the first (1st) and the tenth (10th) day after the end

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of each calendar month for which payment is requested. All progress payments will be made on the basis of the progress of the Work completed.

7.3 Prior to Final Completion, progress payments will be made in an amount equal to ninety-five percent (95%) of the value of Work completed less in each case the aggregate of payments previously made.

7.4 Final Payment. Upon final completion of the Work in accordance with the General Conditions, as may be supplemented, the City shall pay Contractor an amount sufficient to increase total payments to one hundred percent (100%) of the Contract Price. However, not less than five percent (5%) of the Contract Price shall be retained until Record Drawings (as-builts), specifications, addenda, modifications, and shop drawings, including all manufacturers' instructional and parts manuals are delivered to and accepted by the City.

7.5 City may withhold, in whole or in part, payment to such extent as may be necessary to protect itself from loss on account of:

7.5.1 Defective work not remedied.
7.5.2 Claims filed or reasonable evidence indicating probable filing of claims by other parties against Contractor or City because of Contractor's performance.
7.5.3 Failure of Contractor to make payments properly to subcontractors or for material or labor.
7.5.4 Damage to another contractor not remedied.
7.5.5 Liquidated damages and costs incurred by Consultant for extended construction administration, if applicable.
7.5.6 Failure of Contractor to provide any and all documents required by the Contract Documents.

When the above grounds are removed or resolved satisfactory to the Project Manager, payment shall be made in whole or in part.

7.6 The City shall make payment to the Contractor in accordance with the Florida Prompt Payment Act, Section 218.70, Florida Statutes (2024), as amended or revised, provided, however, complete and error free pay application is submitted.

7.7 The City shall make payment to the Contractor through utilization of the City's Purchasing Card (P-Card) Program. The City has implemented a P-Card Program utilizing the MASTERCARD and VISA networks. Purchases from this contract will be made utilizing the City's P-Card. Contractor will receive payment from the purchasing card in the same manner as other credit card purchases. Accordingly, Contractor must presently have the ability to accept these credit cards or take whatever steps necessary to implement the ability before the start of the contract term, or contract award by the City. All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

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7.8 PCI (Payment Card Industry) Compliance
Contractor agrees to comply with all applicable state, federal and international laws, as well as industry best practices, governing the collection, access, use, disclosure, safeguarding and destruction of Protected Information.

Contractor and/or any subcontractor that handles credit card data must be, and remain, PCI compliant under the current standards and will provide documentation confirming compliance upon request by the City of Fort Lauderdale. Failure to produce documentation could result in termination of the contract.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

In order to induce the City to enter into this Agreement, Contractor makes the following representations upon which the City has relied:

8.1 Contractor is qualified in the field of public construction and in particular to perform the Work and services set forth in this Agreement.

8.2 Contractor has visited the Work Site, has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, water table condition, moisture conditions and all year-round local weather and climate conditions (past and present), and examination and investigations conducted by Contractor and the Contractor's experts, has determined that no conditions exist that would in any manner affect the Bid Price and that the project can be completed for the Bid Price submitted within the Contract Time as defined in this Agreement.

Furthermore, Contractor warrants and confirms that it is totally familiar with, understands and obligates Contractor to comply with all federal, state and local laws, ordinances, rules, regulations and all market conditions that affect or may affect the cost and price of materials and labor needed to fulfill all provisions of this Agreement or that in any manner may affect cost, progress or performance of the Work.

8.3 The Contractor has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Project, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, the conformation and conditions at the ground based on City provided reports, the type of equipment and facilities needed preliminary to and during the prosecution of the Work and all other matters which can in any way affect the Work or the cost thereof under the Contract Documents.

8.4 The Contractor has also studied on its own, investigations and tests of subsurface and latent physical conditions at the site or otherwise affecting cost, progress or performance of the Works, and finds and has further determined that no conditions exist that would in any manner affect the Bid Price and that the Project can be completed for the Bid Price submitted.

8.5 Contractor has made or caused to be made, examinations, investigations, tests and studies of such reports and related data in addition to those referred to in Paragraphs 8.2, 8.3 and 8.4 above as it deems necessary for the performance of the Work at the

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Contract Prices, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by Contractor for such purposes.

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

8.7 Contractor has given City written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution by City is acceptable to the Contractor.

8.8 Labor

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

8.8.2 The Contractor shall, at all times, have a competent superintendent, capable of reading and thoroughly understanding the drawings and specifications, as the Contractor's agent on the Work, who shall, as the Contractor's agent, supervise, direct and otherwise conduct the Work.

8.8.3 The Contractor shall designate the superintendent on the job to the City, in writing, immediately after receipt of the Notice to Proceed. The Contractor understands and agrees that the superintendent's physical presence on the job site is indispensable to the successful completion of the Work. If the superintendent is frequently absent from the job site, the Project Manager may deliver written notice to the Contractor to stop work or terminate the Agreement in accordance with Article 17.

8.8.4 Where required and necessary, the Contractor shall, at all times, have a certified "competent person" assigned to the job site. The Contractor shall assign personnel to the job site that have successfully completed training programs related to trench safety, confined space work, and maintenance of traffic (MOT). Personnel certified by the International Municipal Signal Associations with Florida Department of Transportation qualifications are required relative to MOT. Any other certifications that may be required by applicable permitting agencies for the Work shall also be complied with by the Contractor. Failure to pursue the Work with the properly certified supervisory staff may result in notice to stop work or terminate the Agreement in accordance with Article 17.

8.9 Materials:

8.9.1 The Contractor shall furnish all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water and sanitary facilities and all other facilities and incidentals necessary for the execution, testing, initial operation and completion of Work.

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8.9.2 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. Suppliers shall be selected and paid by the Contractor; the City reserves the right to approve all suppliers and materials.

8.10 Work Hours: Except in connection with the safety or protection of persons, or the Work, or property at the site or adjacent thereto, and except as otherwise indicated in the Supplementary Conditions, all work at the site shall be performed during regular working hours between 8 a.m. and 5:00 p.m., Monday through Friday.

Unless approved by the City in advance, the Contractor will not perform work on Saturday, Sunday or any legal holiday (designated by the City of Fort Lauderdale) without the Project Manager's written consent at least seventy-two (72) hours in advance of starting such work. For any overtime inspection required by City personnel, the Contractor shall pay for the additional charges to the City with respect to such overtime work. Such additional charges shall be a subsidiary obligation of the Contractor and no extra payment shall be made to the Contractor for overtime work. **It shall be noted that the City's Inspector work hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday, and any work requiring inspection oversight being performed outside of this timeframe shall be paid for by the Contractor as Inspector overtime at a rate of $100.00 per hour.** The cost to the Contractor to reimburse the City for overtime inspection is established at direct-labor and overtime costs for each person or inspector required. Incidental overtime costs for engineering, testing and other related services will also be charged to the Contractor at the actual rate accrued.

8.11 Patent Fee and Royalties: The 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, or any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. The Contractor hereby expressly binds itself to indemnify and hold harmless the City from all such claims and fees and from any and all suits and action of every name and description that may be brought against City on account of any such claims, fees, royalties, or costs for any such invention or patent, and from any and all suits or actions that may be brought against said City for the infringement of any and all patents or patent rights claimed by any person, firm corporation or other entity.

8.12 Permits: The Contractor shall obtain and pay for all permits and licenses. There shall be no allowance for Contractor markup, overhead or profit for permits and licenses.

The Contractor shall pay all government charges which are applicable at the time of opening of bids. It shall be the responsibility of the Contractor to secure and pay for all necessary licenses and permits of a temporary nature necessary for the prosecution of Work.

8.13 Law and Regulations: The Contractor shall give all notices and comply with all laws, ordinances, rules and regulations applicable to the Work, including Florida Law, the City Code of Ordinances, and any other applicable law. If the Contractor observes that the specifications or plans are in conflict, the Contractor shall give the Project Manager prompt written notice thereof within five (5) calendar days, and any necessary changes shall be adjusted by any appropriate modifications. If the Contractor performs any work knowing or having reason to know that it is contrary to such laws, ordinances, rules,

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standards, specifications and regulations, and without such notice to the Project Manager, the Contractor shall bear all costs arising therefrom.

8.14 Taxes: The Contractor shall pay all sales, consumer, use and other similar taxes required to be paid by him in accordance with the laws of the City of Fort Lauderdale, County of Broward, and the State of Florida.

8.15 Contractor Use of Premises: The Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workmen to areas permitted by law, ordinances, permits and/or the requirements of the Contract Documents, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment.

The Contractor shall not enter upon private property for any purpose without first securing the permission of the property owner in writing and furnishing the Project Manager with a copy of said permission. This requirement will be strictly enforced, particularly with regard to such vacant properties as may be utilized for storage or staging by the Contractor.

The Contractor shall conduct its work in such a manner as to avoid damage to adjacent private or public property. Any damage to existing structures of work of any kind, including permanent reference markers or property corner markers, or the interruption of a utility service, shall be repaired or restored promptly at no expense to the City or property owner.

The Contractor will preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site which do not reasonably interfere with the construction, as determined by the Project Manager. The Contractor will be responsible for repairing or replacing any trees, shrubs, lawns and landscaping that may be damaged due to careless operation of equipment, stockpiling of materials, tracking of grass by equipment or other construction activity. The Contractor will be liable for or will be required to replace or restore at no expense to the City all properties and areas not protected or preserved as required herein that may be destroyed or damaged.

During the progress of the Work, the Contractor shall keep the premises free from accumulation of waste materials, rubbish and debris resulting from the Work. At the completion of the Work, the Contractor shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery, and surplus materials and shall leave the site clean and ready for occupancy by the City. The Contractor shall restore to their original condition those portions of the site not designated for alteration by the Contract Documents at no cost to the City.

8.16 Project Coordination: The Contractor shall provide for the complete coordination of the construction effort. This shall include, but not necessarily be limited to, coordination of the following:

8.16.1 Flow of material and equipment from suppliers.
8.16.2 The interrelated work with affected utility companies.
8.16.3 The interrelated work with the City where tie-ins to existing facilities are required.

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8.16.4 The effort of independent testing agencies.
8.16.5 Notice to affected property owners as may be directed by the Project Manager.
8.16.6 Coordination with and scheduling of all required inspections from all permitting agencies.

8.17 Project Record Documents and Final As-Builts (Record Drawings): Contractor shall be responsible for maintaining up-to-date redline as-built drawings, on site, at all times during construction. All as-built information shall be surveyed and verified by a professional land surveyor registered in the State of Florida. Contractor shall provide the City with a minimum of three (3) sets of signed and sealed record drawings (Final As-Builts) and electronic drawings files. All costs associated with survey work required for construction layout and as-built preparation shall be the responsibility of the Contractor.

8.18 Safety and Protection:

8.18.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

8.18.1.1 All employees working on the project and other persons who may be affected thereby.

8.18.1.2 All the Work and all materials or equipment to be incorporated therein, whether in storage on or off the site.

8.18.1.3 Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

8.18.2 The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. The Contractor shall notify owners of adjacent property and utilities when execution of the Work may affect them at least seventy-two (72) hours in advance (unless otherwise required). All damage, injury or loss to any property caused, directly or indirectly, in whole or in part by the Contractor, any subcontractor or anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, shall be remedied by the Contractor. The Contractor's duties

and responsibilities for safety and protection of the Work shall continue until such time as all the Work is completed and accepted by the City.

8.19 Emergencies: In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, the Contractor, without special instruction or authorization from the City, is obligated to act to prevent threatened damage, injury or loss. The Contractor shall give the Project Manager prompt written notice of any

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significant changes in the Work or deviations from the Contract Documents caused thereby.

8.20 Risk of Loss: The risk of loss, injury or destruction shall be on the Contractor until acceptance of the Work by the City. Title to the Work shall pass to the City upon acceptance of the Work by the City.

8.21 Environmental: The Contractor has fully inspected the Premises and agrees, except as to the presence of any asbestos, to accept the Premises in an "as is" physical condition, without representation or warranty by the City of any kind, including, without limitation, any and all existing environmental claims or obligations that may arise from the presence of any "contamination" on, in or about the Premises. Further, Contractor and all entitles claiming by, through or under the Contractor, releases and discharges the City from any claim, demand, or cause of action arising out of or relating to the Contractor's use, handling, storage, release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of any hazardous substances including asbestos on, under, from or about the Premises. The Contractor shall have no liability for any pre-existing claims or "contamination" on the Premises.

The Contractor shall not use, handle, store, discharge, treat, remove, transport, or dispose of Hazardous Substances including asbestos at, in, upon, under, to or from the Premises until receipt of instructions from the City. At such time, a City approved Change Order, which shall not include any profit, shall authorize the Contractor to perform such services.

The Contractor shall immediately deliver to the Project Manager complete copies of all notices, demands, or other communications received by the Contractor from any governmental or quasi-governmental authority or any insurance company or board of fire underwriters or like or similar entities regarding in any way alleged violations or potential violations of any Environmental Law or otherwise asserting the existence or potential existence of any condition or activity on the Premises which is or could be dangerous to life, limb, property, or the environment.

For other and additional consideration, the Contractor hereby agrees, at its sole cost and expense, to indemnify and protect, defend, and hold harmless the City and its respective employees, agents, officials, officers, representatives, contractors and subcontractors, successors, and assigns (hereafter the "City") from and against any and all claims, demands, losses, damages, costs, expenses, including but not limited to mitigation, restoration, and natural restoration expenses, liabilities, assessments, fines, penalties charges, administrative and judicial proceedings and orders, judgments, causes of action, in law or in equity, remedial action requirements and/or enforcement actions of any kind (including, without limitation, attorneys' fees and costs) directly or indirectly arising out of or attributable to, in whole or in part, the Contractor's use, handling, storage, release, threatened release, discharge, treatment, removal, transport, decontamination, cleanup, disposal and/or presence of a Hazardous Substance (excluding asbestos) on, under, from, to or about the Premises or any other activity carried on or undertaken on or off the Premises by the Contractor or its employees, agents or subcontractors, in connection with the use, handling, storage, release, threatened release, discharge, treatment, mitigation, natural resource restoration, removal, transport, decontamination, cleanup, disposal and/or presence or any Hazardous Substance including asbestos located, transported, or present on,

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undue, from, to, or about the Premises. This indemnity is intended to be operable under 42 U.S.C. Section 9607, as amended or revised, and any successor section.

The scope of the indemnity obligations includes, but is not limited to: (a) all consequential damages; (b) the cost of any required or necessary repair, cleanup, or detoxification of the applicable real estate and the preparation and implementation of any closure, remedial or other required plan, including without limitation; (i) the costs of removal or remedial action incurred by the United States government or the State of Florida or response costs incurred by any other person, or damages from injury to destruction of, or loss of, natural resources, including the cost of assessing such injury, destruction, or loss, incurred pursuant to the Comprehensive Environmental Response, Compensation and Liability Act, as amended; (ii) the clean-up costs, fines, damages, or penalties incurred pursuant to any applicable provisions of Florida law; and (iii) the cost and expenses of abatement, correction or cleanup, fines, damages, response costs, or penalties which arise from the provisions of any other statute, law, regulation, code ordinance, or legal requirement state or federal; and (c) liability for personal injury or property damage arising under any statutory or common law tort theory, including damages assessed for the maintenance of a public private nuisance, response costs, or for the carrying on of an abnormally dangerous activity.

8.22 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any other reason or allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

8.23 No Liens: If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the Work is performed or any part or against any personal property or improvements or claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any Change Order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within twenty (20) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining such. If Contractor shall fail to do so, City shall have

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the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments.

8.24 Weather Emergencies: Upon issuance of a hurricane watch by the National Weather Service, the Contractor shall submit to the City a plan to secure the work area in the event a hurricane warning is issued. The plan shall detail how the Contractor will secure the Premises, equipment and materials in a manner as to prevent damage to the Work and prevent materials and equipment from becoming a hazard to persons and property on and around the Premises. The plan shall include a time schedule required to accomplish the hurricane preparations and a list of emergency contacts that will be available, and in the City before, during and immediately after the storm.

Upon issuance of a hurricane warning by the National Weather Service, if the Contractor has not already done so, the Contractor shall implement its hurricane preparedness plan. Cost of development and implementation of the hurricane preparedness plan shall be considered as incidental to construction. Cost of any clean up and rework required after the storm will be considered normal construction risk within Florida and shall not entitle the Contractor to any additional compensation. Contractor shall be entitled to request an extension in time for completion of the Work, in accordance with the provisions of Article 15 of this Agreement, equal to the time it is shut down for implementation of the preparedness plan, the duration of the storm and a reasonable period to restore the Premises.

8.25 Force Majeure: No Party shall hold the other responsible for damages or for delays in performance caused by force majeure, acts of God, or other acts or circumstances beyond the control of the other Party or that could not have been reasonably foreseen and prevented. For this purpose, such acts or circumstances shall include, but not be limited to weather conditions affecting performance, floods, epidemics, pandemics, war, act of Governmental Authority, state of emergency, riots, strikes, lockouts, or other industrial disturbances, or protest demonstrations. Should such acts or circumstances occur, the Parties shall use their best efforts to overcome the difficulties arising therefrom and to resume the Work as soon as reasonably possible with the normal pursuit of the Work.

Inclement weather, continuous rain for less than three (3) days or the acts or omissions of subcontractors, third-party contractors, materialmen, suppliers, or their sub-contractors, shall not be considered acts of force majeure.

No Party shall be liable for its failure to carry out its obligations under the Agreement during a period when such Party is rendered unable by force majeure to carry out its obligation, but the obligation of the Party or Parties relying on such force majeure shall be suspended only during the continuance of the inability and for no longer period than the unexpected or uncontrollable event.

The Contractor further agrees and stipulates, that its right to excuse its failure to perform by reason of force majeure shall be conditioned upon giving written notice of its assertion that a Force Majeure delay has commenced within ninety-six (96) hours after such an

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occurrence. The Contractor shall use its reasonable efforts to minimize such delays. The Contractor shall promptly provide an estimate of the anticipated additional time required to complete the Project.

8.26 Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assisted Contracts: The recipient shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any DOT-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The recipient shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts. The recipient's DBE program, as required by 49 CFR Part 26 and as approved by DOT, is incorporated by reference in this Agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this Agreement. Upon notification to the recipient of its failure to carry out its approved program, the Department may impose sanctions as provided for under Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 *et seq.*).

Additionally, the Contractor assures that it, the sub-recipient or its subcontractors shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Agreement. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as the recipient deems appropriate. This additional language must be included in each subcontract the prime Contractor signs with a subcontractor.

ARTICLE 9 – CITY'S RESPONSIBILITIES

9.1 The City shall furnish the data required of the Contractor under the Contract Documents promptly and shall make payments to the Contractor in accordance with the terms of the agreement herein.

9.2 After the Contractor meets the City's requirements in the Code of Ordinances, and any other applicable law, the City shall provide public rights-of-way and easement, where available, for the installation of conduits, transformers pads and related appurtenances only.

9.3 Technical Clarifications and Interpretations:

9.3.1 The City shall issue written clarifications or interpretations of the Contract Documents as it may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents. Should the Contractor fail to request interpretation of questionable items in the Contract Documents, the City shall not entertain any excuse for failure to execute the Work in a satisfactory manner.

9.3.2 The City shall interpret and decide matters concerning performance under the requirements of the Contract Documents, and shall make decisions on all claims, disputes or other matters in question. Written notice of each claim, dispute or

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other matter will be delivered by claimant to the other Party but in no event later than five (5) days after the occurrence of event and written supporting data will be submitted to the other Party within five (5) days after such occurrence. All written decisions of the City on any claim or dispute will be final and binding.

9.4 The Contractor shall perform all Work to the reasonable satisfaction of the City in accordance with the Contract Documents. In cases of disagreement or ambiguity, the City shall decide all questions, difficulties, and disputes of whatever nature, which may arise under or by reason of this Agreement or the quality, amount and value of the Work, and the City's decisions on all claims, questions and determination are final.

9.5 Cancellation for Unappropriated Funds**:** The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the Agreement into a subsequent fiscal period is subject to appropriation of funds, unless otherwise authorized by law.

ARTICLE 10 – BONDS AND INSURANCE

10.1 Public Construction and Other Bonds: The Contractor shall furnish Public Construction or Performance and Payment Bonds ("Bond"), each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all the Contractor's obligations under the Contract Documents. These Bonds shall remain in effect until at least one (1) year after the date of final payment, except as otherwise provided by law. All Bonds shall be furnished and provided by the surety and shall be in substantially the same form as prescribed by the Contract Documents and be executed by such sureties as (i) are licensed to conduct business in the State of Florida, and (ii) 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 Audit Staff Bureau of Accounts, U.S. Treasury Department and (iii) otherwise meet the requirements set forth herein that apply to sureties. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

10.1.1 Performance Bond: The Contractor shall execute and record in the public records of Broward County, Florida, a payment and performance bond in an amount at least equal to the Contract Price with a surety insurer authorized to do business in the State of Florida as surety, ("Bond"), in accordance with Section 255.05, Florida Statutes (2024), as may be amended or revised, as security for the faithful performance and payment of all of the Contractor's obligations under the Contract Documents.

A Corporate Surety Bond legally issued, meeting the approval of, and running to the City in an amount not less than the Contract Price of such improvements, conditioned that the Contractor shall maintain and make all repairs to the improvements constructed by the Contractor at their own expense and free of charge to the City, for the period of one (1) year after the date of acceptance of the Work within such period by reason of any imperfection of the material used or by reason of any defective workmanship, or any improper, imperfect or defective preparation of the base upon which any such improvement shall be laid.

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10.2 Disqualification of Surety: If the Surety on any Bond furnished by the Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in the State of Florida or it ceases to meet the requirements of clauses (i) and (ii) of Paragraph 10.1, the Contractor shall within five (5) days thereafter substitute another Bond and Surety, both of which shall be acceptable to the City.

10.3 Insurance

As a condition precedent to the effectiveness of this Agreement, during the term of this Agreement and during any renewal or extension term of this Agreement, Contractor shall, at its sole expense, provide insurance of such types and with such terms and limits as noted below. Providing proof of and maintaining adequate insurance coverage are material obligations of Contractor. Contractor shall provide the City a certificate of insurance evidencing such coverage. Contractor's insurance coverage shall be primary insurance for all applicable policies, in respect to the City's interests for this Agreement. The limits of coverage under each policy maintained by Contractor shall not be interpreted as limiting Contractor's liability and obligations under this Agreement. All insurance policies shall be through insurers authorized or eligible to write policies in the State of Florida and possess an A.M. Best rating of A-, VII or better, subject to approval by the City's Risk Manager.

The coverages, limits, and/or endorsements required herein protect the interests of the City, and these coverages, limits, and/or endorsements shall in no way be relied upon by Contractor for assessing the extent or determining appropriate types and limits of coverage to protect Contractor against any loss exposures, whether as a result of this Agreement or otherwise. The requirements contained herein, as well as the City's review or acknowledgement, are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by Contractor under this Agreement.

The following insurance policies and coverages are required:

Commercial General Liability
Coverage must be afforded under a Commercial General Liability policy with limits not less than:

- $2,000,000 each occurrence and $2,000,000 aggregate for Bodily Injury, Property Damage, and Personal and Advertising Injury
- $2,000,000 each occurrence and $2,000,000 aggregate for Products and Completed Operations

Policy must include coverage for contractual liability and independent contractors.

The City, a Florida municipality, its officials, employees, and volunteers are to be included as an additional insured with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liability arising out of activities performed by or on behalf of Contractor. The coverage shall contain no special limitation on the scope of protection afforded to the City, its officials, employees, and volunteers.

Business Automobile Liability
Coverage must be afforded for all Owned, Hired, Scheduled, and Non-Owned vehicles for Bodily Injury and Property Damage in an amount not less than $1,000,000 combined single limit each accident.

If Contractor does not own vehicles, Contractor shall maintain coverage for Hired and Non-Owned Auto Liability, which may be satisfied by way of endorsement to the Commercial General Liability policy or separate Business Auto Liability policy.

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Workers' Compensation and Employer's Liability

Coverage must be afforded per Chapter 440, Florida Statutes. Any person or entity performing work for or on behalf of the City must provide Workers' Compensation insurance. Exceptions and exemptions will be allowed by the City's Risk Manager, if they are in accordance with Florida Statute.

Contractor waives, and Contractor shall ensure that Contractor's insurance carrier waives, all subrogation rights against the City, its officials, employees, and volunteers for all losses or damages. The City requires the policy to be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or equivalent.

Contractor must be in compliance with all applicable State and federal workers' compensation laws.

Insurance Certificate Requirements

a. Contractor shall provide the City with valid Certificates of Insurance (binders are unacceptable) no later than ten (10) days prior to the start of work contemplated in this Agreement.

b. Contractor shall provide to the City a Certificate of Insurance having a thirty (30) day notice of cancellation; ten (10) days' notice if cancellation is for nonpayment of premium.

c. In the event that the insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested, and addressed to the certificate holder.

d. In the event the Agreement term or any surviving obligation of Contractor following expiration or early termination of the Agreement goes beyond the expiration date of the insurance policy, Contractor shall provide the City with an updated Certificate of Insurance no later than ten (10) days prior to the expiration of the insurance currently in effect. The City reserves the right to suspend the Agreement until this requirement is met.

e. The Certificate of Insurance shall indicate whether coverage is provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.

f. The City shall be included as an Additional Insured on all liability policies, with the exception of Workers' Compensation.

g. The City shall be granted a Waiver of Subrogation on Contractor's Workers' Compensation insurance policy.

h. The title of the Agreement, Bid/Contract number, or other identifying reference must be listed on the Certificate of Insurance.

The Certificate Holder should read as follows:

City of Fort Lauderdale
c/o Procurement Services Division
401 SE 21st Street
Fort Lauderdale, FL 33316

Contractor has the sole responsibility for all insurance premiums and shall be fully and solely responsible for any costs or expenses as a result of a coverage deductible, co-insurance penalty, or self-insured retention; including any loss not covered because of the application of

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such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation. Any costs for including the City as an Additional Insured shall be at Contractor's expense.

If Contractor's primary insurance policy/policies do not meet the minimum requirements as set forth in this Agreement, Contractor may provide evidence of an Umbrella/Excess insurance policy to comply with this requirement.

Contractor's insurance coverage shall be primary insurance in respect to the City's interests for this Agreement, its officials, employees, and volunteers. Any insurance or self-insurance maintained by the City shall be non-contributory.

Any exclusion or provision in any insurance policy maintained by Contractor that excludes coverage required in this Agreement shall be deemed unacceptable and shall be considered breach of contract.

All required insurance policies must be maintained until the Agreement work has been accepted by the City, or until this Agreement is terminated, whichever is later. Any lapse in coverage may be considered breach of contract. In addition, Contractor must provide to the City confirmation of coverage renewal via an updated certificate of insurance should any policies expire prior to the expiration of this Agreement. The City reserves the right to review, at any time, coverage forms and limits of Contractor's insurance policies.

Contractor shall provide notice of any and all claims, accidents, and any other occurrences associated with this Agreement to Contractor's insurance company or companies and the City's Risk Management office as soon as practical.

It is Contractor's responsibility to ensure that any and all of Contractor's independent contractors and subcontractors comply with these insurance requirements. All coverages for independent contractors and subcontractors shall be subject to all of the applicable requirements stated herein. Any and all deficiencies are the responsibility of Contractor. The City reserves the right to adjust insurance limits from time to time at its discretion with notice to Contractor.

NOTE: CITY PROJECT NUMBER, PROJECT NAME AND BID NUMBER MUST APPEAR ON EACH CERTIFICATE, AND THE CITY OF FORT LAUDERDALE MUST BE NAMED ON THE CERTIFICATE AS AN "ADDITIONAL INSURED" ON REQUIRED LIABILITY POLICIES.

A Sample Insurance Certificate shall be included with the bid to demonstrate the firm's ability to comply with insurance requirements. Provide a previous certificate or other evidence listing the insurance companies' names for all required coverage, and the dollar amounts of the coverage.

ARTICLE 11- WARRANTY AND GUARANTEE, TESTS AND INSPECTIONS, CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

11.1 Warranty: The Contractor warrants and guarantees to the City that all Work will be in accordance with the Contract Documents and will not be defective. Prompt notice of all defects shall be given to the Contractor. All defective work, whether or not in place, may be rejected, corrected or accepted as provided in this Article.

11.1.1 Warranty of Title: The Contractor warrants to the City that it possesses good, clear and marketable title to all equipment and materials provided and that there

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are no pending liens, claims or encumbrances against the equipment and materials.

11.1.2 Warranty of Specifications: The Contractor warrants that all equipment, materials and workmanship furnished, whether furnished by the Contractor, its subcontractors or suppliers, will comply with the specifications, drawings and other descriptions supplied or adopted and that all services will be performed in a workmanlike manner.

11.1.3 Warranty of Merchantability: The Contractor warrants that any and all equipment to be supplied pursuant to this Agreement is merchantable, free from defects, whether patent or latent in material or workmanship, and fit for the ordinary purposes for which it is intended.

11.2 Tests and Inspections: Contractor shall retain the services of an independent, certified, testing lab to perform all testing as required by the specifications, contract drawings, and any applicable permitting agency. Contractor shall provide evidence of certification to the City before the work and testing is done. Testing results shall be submitted to the Project Manager for review and approval at the time the results are provided to the Contractor. The Contractor shall give the Project Manager and City Inspector a minimum of twenty-four (24) hours' advanced notice of readiness of the Work for all required inspections, tests, or approvals and shall notify all applicable permitting agencies in a timely manner based on requirements set forth in the permit documents.

11.2.1 Neither observations by the Project Manager nor inspections, tests or approvals by others shall relieve the Contractor from its obligations to perform the Work in accordance with the Contract Documents.

11.3 Uncovering Work: If any work that is to be inspected, tested or approved is covered without approval or consent of the Project Manager, it must, if requested by the Project Manager, be uncovered for observation and/or testing. Such uncovering and replacement shall be at the Contractor's sole expense unless the Contractor has given the Project Manager timely notice of the Contractor's intention to cover such Work and the Project Manager has not acted with reasonable promptness in response to such notice.

11.3.1 If the Project Manager considers it necessary or advisable that Work covered in accordance with Paragraphs 11.2.1 be observed by the City or inspected or tested by others, the Contractor at the City's request, shall uncover, expose or otherwise make available for observation, inspection or testing as the Project Manager may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, the Contractor shall bear all the expenses of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, including compensation for additional professional services, and an appropriate deductive Change Order shall be issued. If, however, such work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection testing and reconstruction if it makes a claim therefore as provided in Articles 14 and 15.

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11.4 City May Stop the Work: If the Work is defective, or the Contractor fails to supply sufficient skilled supervisory personnel or workmen or suitable materials or equipment or the work area is deemed unsafe, the City may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the City to stop the Work shall not give rise to any duty on the part of the City to exercise this right for the benefit of the Contractor or any other Party. The City will not award any increase in Contract Price or Contract Time if the Work is stopped due to the circumstances described herein.

11.5 Correction or Removal of Defective Work Before Final Payment: If required by the Project Manager, the Contractor shall promptly, without cost to the City and as specified by the Project Manager, either correct any defective Work, whether or not fabricated, installed or completed, or if the Work has been rejected by the City remove it from the site and replace it with non-defective Work.

11.6 One Year Correction Period After Final Payment: If within one (1) year after the date of final acceptance, or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective, the Contractor shall promptly, without cost to the City and in accordance with the City's written instructions, either correct such defective Work, or, if it has been rejected by the City, remove it from the site and replace it with non-defective Work.

If the Contractor does not promptly comply with the terms of such instructions or in an emergency where delay would cause serious risk of loss or damage, the City may have the defective Work corrected or the rejected Work removed and replaced, and all direct and indirect costs for such removal and replacement, including compensation for additional professional services, shall be paid by the Contractor.

11.7 Acceptance of Defective Work, Deductions: If, instead of requiring correction or removal and replacement of defective Work, the City, at the City's sole option, prefers to accept it, the City may do so. In such a case, if acceptance occurs prior to the Project Manager's recommendation of final payments, a Change Order shall be issued incorporating the necessary revisions in the Contract's Documents, including appropriate reduction in the Contract Price; or if the acceptance occurs after such recommendation, an appropriate amount shall be paid by the Contractor to the City.

11.8 City May Correct Defective Work: If the Contractor fails within a reasonable time after written notice of the Project Manager to proceed to correct defective Work or to remove and replace rejected Work as required by the Project Manager in accordance with Paragraph 11.5, or if the Contractor fails to perform the Work in accordance with the Contract Documents, the City may, after seven (7) days' written notice to the Contractor, correct and remedy any such deficiency. In exercising its rights under this paragraph, the City shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, the City may exclude the Contractor from all or part of the site, take possession of all or part of the Work, suspend the Contractor's services related thereto and take possession of the Contractor's tools, construction equipment and materials stored at the site or elsewhere. The Contractor shall allow the City's representative agents and employees such access to the site as may be necessary to enable the City to exercise its rights under this paragraph. All direct and indirect costs of the City in exercising such rights shall be charged against the Contractor in an amount verified by

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the Project Manager, and a Change Order shall be issued incorporating the necessary revisions in the Contract Documents and a reduction in the Contract Price. Such direct and indirect costs shall include, in particular but without limitation, compensation for additional professional services required and costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of the Contractor's defective Work. The Contractor shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by the City of the City's right hereunder.

ARTICLE 12 – INDEMNIFICATION

12.1 Disclaimer of Liability: The City shall not at any time, be liable for injury or damage occurring to any person or property from any cause, whatsoever, arising out of Contractor's construction and fulfillment of this Agreement.

12.2 Indemnification: For other, additional good valuable consideration, the receipt and sufficiency of which is hereby acknowledged:

12.2.1 Contractor shall, at its sole cost and expense, indemnify and hold harmless the City, its representatives, agents, volunteers, employees and elected and appointed officials from or on account of all claims, damages, losses, liabilities and expenses, direct, indirect or consequential including but not limited to fees and charges of engineers, architects, attorneys, consultants and other professionals and court costs arising out of or in consequence of the performance of this Agreement at all trial and appellate levels. Indemnification shall specifically include but not be limited to claims, damages, losses, liabilities and expenses arising out of or from (a) the negligent or defective design of the project and Work of this Agreement; (b) any act, omission or default of the Contractor, its subcontractors, agents, suppliers, employees or laborers; (c) any and all bodily injuries, sickness, disease or death; (d) injury to or destruction of tangible property, including any resulting loss of use; (e) other such damages, liabilities, or losses received or sustained by any person or persons during or on account of any operations connected with the construction of this Project including the warranty period; (f) the use of any improper materials; (g) any construction defect including both patent and latent defects; (h) failure to timely complete the work; (i) the violation of any federal, state, county or City laws, ordinances or regulations by Contractor, its subcontractors, agents, servants, independent contractors or employees; (j) the breach or alleged breach by Contractor of any term of the Agreement, including the breach or alleged breach of any warranty or guarantee.

12.2.2 Contractor agrees to indemnify, defend, and hold harmless the City, its representatives, agents, volunteers, employees, and appointed and elected officials from all damages, liabilities, losses, claims, fines and fees, and from any and all suits and actions of every name and description that may be brought against City, its officers, agents and employees, on account of any claims, fees, royalties, or costs for any invention or patent and/or for the infringement of any and all copyrights or patent rights claimed by any person, firm, or corporation.

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12.2.3 Contractor shall pay all claims, losses, liens, settlements or judgments of any nature in connection with the foregoing indemnifications including, but not limited to, reasonable attorney's fees and costs for trials and appeals.

12.2.4 If any subcontractor, supplier, laborer, or materialmen of Contractor or any other person directly or indirectly acting for or through Contractor files or attempts to file a mechanic's or construction lien against the real property on which the work is performed or any part or against any personal property or improvements thereon or make a claim against any monies due or to become due from the City to Contractor or from Contractor to a subcontractor, for or on account of any work, labor, services, material, equipment, or other items furnished in connection with the Work or any change order, Contractor agrees to satisfy, remove, or discharge such lien or claim at its own expense by bond, payment, or otherwise within five (5) days of the filing or from receipt of written notice from the City.

Additionally, until such time as such lien or claim is satisfied, removed or discharged by Contractor, all monies due to Contractor, or that become due to Contractor before the lien or claim is satisfied, removed or otherwise discharged, shall be held by City as security for the satisfaction, removal and discharge of such lien and any expense that may be incurred while obtaining the discharge. If Contractor shall fail to do so, City shall have the right, in addition to all other rights and remedies provided by this Agreement or by law, to satisfy, remove, or discharge such lien or claim by whatever means City chooses at the entire and sole cost and expense of Contractor which costs and expenses shall, without limitation, include attorney's fees, litigation costs, fees and expenses and all court costs and assessments, and which shall be deducted from any amount owing to Contractor. In the event the amount due Contractor is less than the amount required to satisfy Contractor's obligation under this, or any other article, paragraph or section of this Agreement, the Contractor shall be liable for the deficiency due the City.

12.2.5 The Contractor and the City agree that Section 725.06(2), Florida Statutes (2024), as may be amended or revised, controls the extent and limits of the indemnification and hold harmless provisions of this Agreement, if any, and that the Parties waive any defects in the wording of this Article that runs afoul of said statutory section.

ARTICLE 13 – CHANGES IN THE WORK

13.1 Without invalidating this Agreement, the City may, at any time or from time-to-time order additions, deletions or revisions in the Work through the issuance of Change Orders. Upon receipt of a fully executed Change Order, the Contractor shall proceed with the Work involved. All Work shall be executed under the applicable conditions of the Contract Documents. If any Change Order causes an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, an equitable adjustment will be made as provided in Article 14 or Article 15 on the basis of a claim made by either Party.

13.2 The Project Manager may authorize minor changes in the Work not involving an adjustment in the Contract Price or the Contract Time, which are consistent with the

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overall intent of the Contract Documents. Such changes must be in writing and signed by the City and the Contractor.

13.3 If notice of any change affecting the general scope of the Work or change in the Contract Price is required by the provisions of any Bond to be given to the Surety, it will be the Contractor's responsibility to so notify the Surety, and the amount of each applicable Bond shall be adjusted accordingly. The Contractor shall furnish proof of such adjustment to the City.

ARTICLE 14 – CHANGE OF CONTRACT PRICE

Change of Contract Price, approved by City, shall be computed as follows:

14.1 Cost of the Work: The term "Cost of the Work" means the sum of all direct costs necessarily incurred and paid by Contractor in the proper performance of the Work. Except as otherwise may be agreed to in writing by the City, these costs shall be in amounts no higher than those prevailing in the City and shall include only the following items and shall not include any of the costs itemized in Paragraph 14.3:

14.1.1 Payroll costs for employees in the direct employ of the Contractor in the performance of the Work under schedules of job classifications agreed upon by the City and the Contractor. 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 cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, worker's compensation, health and retirement benefits, bonuses, sick leave, vacation and applicable holiday pay.

14.1.2 Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage, and required suppliers and field services. All cash discounts, rebates and refunds and all returns from sale of surplus materials and equipment shall accrue to the City, and the Contractor shall make provisions so that they may be obtained.

14.1.3 Supplemental costs including the following:

14.1.3.1 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.

14.1.3.2 Rentals of all construction equipment and machinery and the parts whether rented from the Contractor or others in accordance with rental agreements approved by the City, and the costs of transporting, loading, unloading, installation, dismantling and removal. The rental of any such equipment, machinery or parts shall cease when the use is no longer necessary for the Work.

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14.1.3.3 Sales, consumer, use or similar taxes related to the Work and for which the Contractor is liable, imposed by laws and regulations.

14.1.3.4 Royalty payments and fees for permits and licenses.

14.1.3.5 The cost of utilities, fuel and sanitary facilities at the Work site.

14.1.3.6 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

14.1.3.7 Cost of premiums for additional bonds and insurance required because of changes in the Work.

14.2 The Contract Price may only be increased by an approved and fully executed Change Order when Work is modified in accordance with Article 13 and approved by the City in writing. Any claim for an increase in the Contract Price resulting from a Change Order shall be based on written notice delivered to the Project Manager within ten (10) days of the occurrence of the Change Order giving rise to the claim. Notice of the amount of the claim with supporting data shall be included in the Change Order and delivered within twenty (20) days of such occurrence unless Project Manager allows an additional period of time to ascertain accurate cost data. Any change in the Contract Price resulting from any such claim shall be incorporated in the Change Order. **IT IS EXPRESSLY AND SPECIFICALLY AGREED THAT ANY AND ALL CLAIMS FOR CHANGES TO THE CONTRACT PRICE SHALL BE WAIVED IF NOT SUBMITTED IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF THIS SECTION.**

14.3 Not Included in the Cost of the Work: The term "Cost of the Work" shall not include any of the following:

14.3.1 Payroll costs and other compensation of the Contractor's officers' executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditor, accountants, purchasing and contracting agents, expediters, timekeepers, clerks and other personnel employed by the Contractor whether at the site or in the 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 14.1.1, all of which are to be considered administrative costs covered by the Contractor's fee.

14.3.2 Expenses of the Contractor's principal and branch offices other than the Contractor's office at the site.

14.3.3 Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work and charges against the Contractor for delinquent payments.

14.3.4 Cost of premiums for all bonds and for all insurance whether or not the Contractor is required by the Contract Documents to purchase and maintain the same.

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14.3.5 Costs due to the negligence of the 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.

14.3.6 Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 14.1.

14.4 Basis of Compensation: The Contractor's compensation, allowed to the Contractor for overhead and profit, shall be determined as follows:

14.4.1 A mutually acceptable negotiated fee:

14.4.1.1 For costs incurred under Paragraphs 14.1.1 and 14.1.2, the Contractor's fee shall not exceed five percent (5%).

14.4.1.2 No fee shall be payable on the basis of costs itemized under Paragraphs 14.1.3.1, 14.1.3.2, 14.1.3.3, 14.1.3.4, 14.1.3.5, 14.1.3.6, 14.1.3.7, 14.3.1, 14.3.2, 14.3.3, 14.3.4, 14.3.5 and 14.3.6.

14.4.1.3 The amount of credit to be allowed by the Contractor to the City for any such change which results in a net decrease plus a deduction in the Contractor's fee by an amount equal to five percent (5%) for the net decrease.

14.4.1.4 When both additions and credits are involved in any one change the combined overhead and profit shall be figured on the basis of net increase if any, however, not to exceed five percent (5%) of the agreed compensation. Profit will not be paid on any Work not performed.

14.5 Cost Breakdown Required: Whenever the cost of any Work is to be determined pursuant to this Article, the Contractor will submit in form acceptable to the City an itemized cost breakdown together with supporting documentation. Whenever a change in the Work is to be based upon mutual acceptance of a lump sum, whether the amount is an addition, credit, or no-charge-in-cost, the Contractor shall submit an estimate substantiated by a complete itemized breakdown:

14.5.1 The breakdown shall list quantities and unit prices for materials, labor, equipment and other items of cost.

14.5.2 Whenever a change involves the Contractor and one (1) or more subcontractors and the change is an increase in the agreed compensation, the overhead and profit percentage for the Contractor and each subcontractor shall be itemized separately.

ARTICLE 15 – CHANGE OF THE CONTRACT TIME

15.1 The Contract Time may only be changed by an approved and fully executed Change Order. Any claim for an extension in the Contract Time shall be based on written notice

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delivered to the Project Manager within five (5) days of the occurrence of the event giving rise to the claim. Any change in the Contract Time resulting from any such claim shall be incorporated in a Change Order.

15.2 The Contract Time will be extended in an amount equal to time lost due to delays beyond the control of the Contractor if a claim is made therefore as provided in Paragraph 15.1. Such delays shall include but not be limited to, acts or neglect by the City, or to fires, floods, labor disputes, epidemics, abnormal weather conditions, pandemics, act of Governmental Authority, state of emergency, or acts of God.

15.3 All time limits stated in the Contract Documents are of the essence. The provisions of this Article 15 shall not exclude recovery for damages for delay by the Contractor.

15.4 Delays caused by or resulting from entities, contractors or subcontractors who are not affiliated with the Contractor (non-affiliated Contractors) shall not give rise to a claim by the Contractor for damages for increases in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T and Florida East Coast Railway, LLC.

15.5 Rights of Various Interests: Whenever work being done by City's forces or by other contractors is contiguous to or within the limits of work covered by this Agreement, the respective rights of the various interests involved shall be established by the Project Manager to secure the completion of the various portions of the Work in general harmony.

ARTICLE 16 – LIQUIDATED DAMAGES

16.1 Upon failure of the Contractor to complete the Work within the time specified for completion, the Contractor shall pay to the City the sum of **Two Hundred Dollars ($200.00)** for each and every calendar day that the completion of the Work is delayed beyond the time specified in this Agreement for completion, as fixed and agreed liquidated damages and not as a penalty, so long as the delay Is caused by the Contractor. Should an act of God or the acts or omissions of the City, its agents or representatives, in derogation to the terms of this Agreement cause the delay, the Contractor shall not be responsible for the delay nor liquidated damages. Liquidated damages are fixed and agreed upon between the Parties, recognizing the impossibility of precisely ascertaining the amount of damages that will be sustained by the City as a consequence of such delay and both Parties desiring to obviate any question of dispute concerning the amount of damages and the cost and effect of the failure of the Contractor to complete the Work on time. Liquidated damages shall apply separately to each portion of the Work for which a time of completion is given. The City shall have the right to deduct from or retain any compensation which may be due or which may become due and payable to the Contractor the amount of liquidated damages, and if the amount retained by the City is insufficient to pay in full such liquidated damages, the Contractor shall pay all liquidated damages in full. The Contractor shall be responsible for reimbursing the City, in addition to liquidated damages or other damages for delay, for all costs of engineering, architectural fees, and inspection and other costs incurred in administering the construction of the Project beyond the completion date specified or beyond an approved extension of time granted to the Contractor whichever is later. Delays caused by or resulting from entities, contractors or subcontractors who are not

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affiliated with the Contractor shall not give rise to a claim by Contractor for damages for increase in material and/or labor costs. Such entities, contractors and subcontractors include, but are not limited to, the City's contractors and subcontractors, Florida Power and Light Company, AT&T, and Florida East Coast Railway, LLC.

16.2 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 17 – SUSPENSION OF WORK AND TERMINATION

17.1 City May Suspend Work: The City may, at any time and without cause, suspend the Work or any portion of the Work for a period of not more than ninety (90) days by notice in writing to the Contractor which shall fix the date on which Work shall be resumed. The Contractor shall resume the Work on the date fixed. The Contractor will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension, if the Contractor makes a claim as provided in Articles 14 and 15.

17.2 City's Right to Terminate Contract: The City may terminate this Agreement upon fifteen (15) calendar days' written notice upon the occurrence of any one or more of the following events:

17.2.1 If the Contractor makes a general assignment for the benefit of creditors.

17.2.2 If a trustee, receiver, custodian or agent of the Contractor is appointed under applicable law or under Agreement, whose appointment or authority to take charge of property of the Contractor is for the purpose of enforcing a lien against such property or for the purpose of general administration of such property for the benefit of the Contractor's creditors.

17.2.3 If Contractor fails to begin the Work within fifteen (15) calendar days after the date set forth in the Notice to Proceed, or fails to perform the Work with sufficient workers and equipment or with sufficient materials to ensure the prompt completion of the Work, or shall perform the Work unsuitably, or cause it to be rejected as defective and unsuitable, or shall discontinue the prosecution of the Work pursuant to the accepted schedule or if Contractor shall fail to perform any material term set forth in the Contract Documents, or from any other cause whatsoever shall not carry on the Work in an acceptable manner, Project

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Manager may give notice in writing to Contractor and its Surety of such delay, neglect or default, specifying the same.

17.2.4 If the Contractor repeatedly fails to make prompt payments to subcontractors or for labor, material or equipment.

17.2.5 If the Contractor repeatedly disregards proper safety procedures.

17.2.6 If the Contractor disregards any local, state or federal laws or regulations.

17.2.7 If the Contactor otherwise violates any provisions of this Agreement.

17.3 If Contractor, within a period of ten (10) calendar days after such notice, shall not proceed in accordance therewith, the City may exclude the Contractor from the Work site and take the prosecution of the Work out of the hands of the Contractor, and take possession of the Work and all of the Contractor's tools, appliances, construction equipment and machinery at the site and use them without liability to the City for trespass or conversion, incorporate in the Work all materials and equipment stored at the site or for which the City has paid the Contractor but which are stored elsewhere, and finish the Work as the City may deem expedient. In this instance, the Contractor shall not be entitled to receive any further compensation until the Work is finished.

17.3.1 If after notice of termination of Contractor's notice to proceed, it is determined for any reason that Contractor was not in default, the rights and obligations of City and Contractor shall be the same as if the notice of termination had been issued pursuant to the Termination for Convenience clause as set forth below in Section 17.5.

17.3.2 Upon receipt of Notice of Termination pursuant to Sections 17.2 or 17.5, Contractor shall promptly discontinue all affected work unless the Notice of Termination directs otherwise and deliver or otherwise make available to City all data, drawings, specifications, reports, estimates, summaries and such other information as may have been required by the Contract Documents whether completed or in process.

17.4 If the Contractor commits a default due to its insolvency or bankruptcy, the following shall apply:

17.4.1 Should this Agreement be entered into and fully executed by the Parties, funds released and the Contractor (Debtor) files for bankruptcy, the following shall occur:

17.4.1.1 In the event the Contactor files a voluntary petition under 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303, the Contractor shall acknowledge the extent, validity, and priority of the lien recorded in favor of the City. The Contractor further agrees that in the event of this default, the City shall, at its option, be entitled to seek relief from the automatic stay pursuant to 11 U.S.C. 362. The City shall be entitled to relief from the automatic stay pursuant to 11 U.S.C. 362(d) (1) or (d) (2), and the Contactor agrees to waive the notice provisions in effect pursuant to 11 U.S.C. 362 and any applicable Local Rules of the

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United States Bankruptcy Court. The Contactor acknowledges that such waiver is done knowingly and voluntarily.

17.4.1.2 Alternatively, in the event the City does not seek stay relief, or if stay relief is denied, the City shall be entitled to monthly adequate protection payments within the meaning of 11 U.S.C. 361. The monthly adequate protection payments shall each be in an amount determined in accordance with the Note and Mortgage executed by the Contractor in favor of the City.

17.4.1.3 In the event the Contractor files for bankruptcy under Chapter 13 of Title 11, United States Code in additional to the foregoing provisions, the Contractor agrees to cure any amounts in arrears over a period not to exceed twenty-four (24) months from the date of the confirmation order, and such payments shall be made in addition to the regular monthly payments required by the Note and mortgage. Additionally, the Contractor shall agree that the City is over secured and, therefore, entitled to interest and attorney's fees pursuant to 11 U.S.C. 506(b). Such fees shall be allowed and payable as an administrative expense. Further, in the event the Contractor has less than five (5) years of payments remaining on the Note, the Contractor agrees that the treatment afforded to the claim of the City under any confirmed plan of reorganization shall provide that the remaining payments shall be satisfied in accordance with the Note, and that the remaining payments or claim shall not be extended or amortized over a longer period than the time remaining under the Note.

17.4.2 Should this Agreement be entered into and fully executed by the Parties, and the funds have not been forwarded to Contractor, the following shall occur:

17.4.2.1 In the event the Contractor files a voluntary petition pursuant to 11 U.S.C. 301 or 302, or an order for relief is entered under 11 U.S.C. 303., the Contractor acknowledges that the commencement of a bankruptcy proceeding constitutes an event of default under the terms of this Agreement. Further, the Contractor acknowledges that this Agreement constitutes an executory contract within the meaning of 11 U.S.C. 365. The Contractor acknowledges that this Agreement is not capable of being assumed pursuant to 11 U.S.C. 365(c)(2), unless the City expressly consents in writing to the assumption. In the event the City consents to the assumption, the Contractor agrees to file a motion to assume this Agreement within ten (10) days after receipt of written consent from the City, regardless of whether the bankruptcy proceeding is pending under Chapter 7, 11, or 13 of Title 11 of the United States Code. The Contractor further acknowledges that this Agreement is not capable of being assigned pursuant to 11 U.S.C. 365(b)(1).

17.5 Termination for Convenience: This Agreement may be terminated for convenience in writing by City upon thirty (30) days' written notice to Contractor (delivered by certified mail, return receipt requested) of intent to terminate and the date on which such termination becomes effective. In such case, Contractor shall be paid for all work

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executed and accepted by the City and costs reasonably incurred by Contractor relating to commitments which had become firm prior to the termination. No payment shall be made for profit for work/services which have not been performed or accepted.

17.6 Where the Contractor's service has been so terminated by the City, the termination shall not affect any rights of the City against the Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due the Contractor by the City will not release the Contractor from liability.

17.7 The Contractor has no right, authority or ability to terminate the Work except for the wrongful withholding of any payments due the Contractor from the City.

ARTICLE 18 – DISPUTE RESOLUTION

18.1 Resolution of Disputes: Questions, claims, difficulties and disputes of whatever nature which may arise relative to the technical interpretation of the Contract Documents and fulfillment of this Agreement as to the character, quality, amount and value of any work done and materials furnished, or proposed to be done or furnished under, or by reason of, the Contract Documents which cannot be resolved by mutual agreement of City Project Manager and Contractor shall be submitted to the City Manager or his designee and Contractor's representative for resolution. Prior to any litigation being commenced, for any disputes which remain unresolved, within sixty (60) days after final completion of the Work, the Parties shall participate in mediation to address all unresolved disputes to a mediator agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies provided under the laws of Florida. Failure by a Party to comply in strict accordance with the requirements of this Article, then said Party specifically waives all of its rights provided hereunder, including its rights and remedies under the laws of Florida.

18.1.1 All non-technical administrative disputes (such as billing and payment) shall be determined by Contract Administrator.

18.1.2 During the pendency of any dispute and after a determination thereof, Contractor and Contract Administrator shall act in good faith to mitigate any potential damages including utilization of construction schedule changes and alternate means of construction. During the pendency of any dispute arising under this Agreement, other than termination herein, Contractor shall carry on the Work and adhere to the progress schedule. The Work shall not be delayed or postponed pending resolution of any disputes or disagreements.

18.1.3 For any disputes which remain unsolved, within sixty (60) calendar days after Final Completion of the Work, the Parties shall participate in mediation to address all unresolved disputes. A mediator shall be mutually agreed upon by the Parties. Should any objection not be resolved in mediation, the Parties retain all their legal rights and remedies under applicable law. If a Party objecting to a determination, fails to comply in strict accordance with the requirements of this Article, said Party specifically waives all of its rights provided hereunder, including its rights and remedies under applicable law.

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ARTICLE 19 – NOTICES

19.1 All notices required by any of the Contract Documents shall be in writing and shall be deemed delivered upon mailing by certified mail, return receipt requested to the following:

To the City:

Brightny Dorelus
Project Manager
City of Fort Lauderdale
101 NE 3rd Ave,21st Floor
Fort Lauderdale, Florida 33301-1016
Telephone: (954) 828- 6885
E-mail: Bdorelus@fortlauderdale.gov

with copies to:

City Manager
City of Fort Lauderdale
401 SE 21st Street
Fort Lauderdale, FL 33316

and

City Attorney
City of Fort Lauderdale
1 East Broward Blvd, Suite 1605
Fort Lauderdale, FL 33301-1016

To the Contractor:

_____
_____
_____
Telephone: _____
E-mail: _____

ARTICLE 20 – LIMITATION OF LIABILITY

20.1 The City desires to enter into this Agreement only if in so doing the City can place a limit on the City's liability for any cause of action arising out of this Agreement, so that the City's liability for any breach never exceeds the sum of $1,000. For other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Contractor expresses its willingness to enter into this Agreement with the knowledge that the Contractor's recovery from the City to any action or claim arising from the Agreement is limited to a maximum amount of $1,000, which amount shall be reduced by the amount actually paid by the City to the Contractor pursuant to this Agreement, for any action or claim arising out of this Agreement.

20.2 Sovereign Immunity: Nothing contained in this paragraph or elsewhere in this Agreement is in any way intended either to be a waiver of the Sovereign Immunity limitation placed upon the City's liability as set forth in Section 768.28, Florida Statutes (2024), as may be amended or revised, or to extend the City's liability beyond the limits established in said Section 768.28, Florida Statutes (2024), as may be amended or

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revised; and no claim or award against the City shall include attorney's fees, investigative costs, expert fees, suit costs or pre-judgment interest.

20.3 No Extended Damages: For other and additional good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, the Contractor covenants and agrees that in the event of any delay of construction or for any reason, allegation or claim, and notwithstanding the reason of the delay, reason, claim or allegation or who caused them or the construction delay or whether they were caused by the City, that there will be no entitlement to Contractor to or for any direct or indirect financial damages or losses for extended corporate overhead impact, extended project overhead impacts, project support services, mobilization or demobilization or by whatever other label or legal concept or theory and types of names or labels or basis such claims may have, or any business damages or losses of whatever type or nature, and Contractor hereby waives any right to make any such claim or claims. This provision will have application and effect when construction delays are anticipated and agreed upon by both the City and the Contractor.

ARTICLE 21 – GOVERNING LAW; WAIVER OF JURY TRIAL

21.1 The Agreement shall be interpreted and construed in accordance with, and governed by, the laws of the state of Florida. The Parties agree that the exclusive venue for any lawsuit arising from, related to, or in connection with this Agreement shall be in the state courts of the Seventeenth Judicial Circuit in and for Broward County, Florida. If any claims arising from, related to, or in connection with this Agreement must be litigated in federal court, the Parties agree that the exclusive venue for any such lawsuit shall be in the United States District Court or United States Bankruptcy Court for the Southern District of Florida in Broward County. **BY ENTERING INTO THIS AGREEMENT, THE PARTIES HEREBY EXPRESSLY WAIVE ANY AND ALL RIGHTS EITHER PARTY MIGHT HAVE TO A TRIAL BY JURY REGARDING THIS AGREEMENT OR ANY ISSUES RELATED TO THIS AGREEMENT. IF A PARTY FAILS TO WITHDRAW A REQUEST FOR A JURY TRIAL IN A LAWSUIT ARISING OUT OF THIS AGREEMENT AFTER WRITTEN NOTICE BY THE OTHER PARTY OF VIOLATION OF THIS SECTION, THE PARTY MAKING THE REQUEST FOR JURY TRIAL SHALL BE LIABLE FOR THE REASONABLE ATTORNEYS' FEES AND COSTS OF THE OTHER PARTY IN CONTESTING THE REQUEST FOR JURY TRIAL, AND SUCH AMOUNTS SHALL BE AWARDED BY THE COURT.**

ARTICLE 22 – MISCELLANEOUS

22.1 The duties and obligations imposed by this Agreement and the rights and remedies available to the Parties and, in particular but without limitation, the warranties, guaranties and obligations imposed upon the Contractor and all of the rights and remedies available to the City, 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, and the provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents, and the provisions of this Paragraph will survive final payment and termination or completion of this Agreement.

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22.2 The Contractor shall not assign or transfer this Agreement or its rights, title or interests. The obligations undertaken by the Contractor pursuant to this Agreement shall not be delegated or assigned to any other person or firm. Violation of the terms of this Paragraph shall constitute a material breach of Agreement by the Contractor and the City any, at its discretion, cancel this Agreement and all rights, title and interest of the Contractor which shall immediately cease and terminate.

22.3 The Contractor and its employees, volunteers and agents shall be and remain as independent contractor and not agents or employees of the City with respect to all of the acts and services performed by and under the terms of this Agreement. This Agreement shall not in any way be constructed to create a partnership, association or any other kind of joint undertaking or venture between the Parties.

22.4 The City reserves the right to audit the records of the Contractor relating in any way to the Work to be performed pursuant to this Agreement at any time during the performance and term of this Agreement and for a period of three (3) years after completion and acceptance by the City. If required by the City, the Contractor agrees to submit to an audit by an independent certified public accountant selected by the City. The Contractor shall allow the City to inspect, examine and review the records of the Contractor at any and all times during normal business hours during the term of this Agreement.

22.5 The remedies expressly provided in this Agreement to the City shall not be deemed to be exclusive but shall be cumulative and in addition to all other remedies in favor of the City now or later existing at law or in equity.

22.6 Should any part, term or provisions of this Agreement be decided by the courts to be invalid, illegal or in conflict with any state or federal law, the validity of the remaining portion or provision shall not be affected.

22.7 Prohibition Against Contracting With Scrutinized Companies: Subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in Iran Terrorism Sectors List, created pursuant to Section 215.473, Florida Statutes (2024), as may be amended or revised, and that it does not have business operations in Cuba or Syria, as provided in Section 287.135, Florida Statutes (2024), as may be amended or revised. The Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2024), as may be amended or revised, and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of Section 287.135, Florida Statutes (2024), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List, or been placed on a list created pursuant to Section 215.473, Florida Statutes (2024), as may be amended or revised, relating to scrutinized active business operations in Iran, or been placed on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2024), as may be amended or revised, or is engaged in a boycott of Israel, or has been engaged in business operations in Cuba or

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Syria, as defined in Section 287.135, Florida Statutes (2024), as may be amended or revised.

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

22.8 Public Entity Crimes: In accordance with the Public Crimes Act, Section 287.133, Florida Statutes (2024), as may be amended or revised, a person or affiliate who is a contractor, consultant or other provider, who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid on a contract to provide any goods or services to the City, may not submit a bid on a contract with the City for the construction or repair of a public building or public work, may not submit bids on leases of real property to the City, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with the City, and may not transact any business with the City in excess of the threshold amount provided in Section 287.017, Florida Statutes (2024), as may be amended or revised, for category two purchases for a period of thirty-six (36) months from the date of being placed on the convicted vendor list. Violation of this section by Contractor shall result in cancellation of the City purchase and may result in Contractor debarment.

22.9 Attorney Fees: In the event it becomes necessary for either party herein to seek legal means to enforce the terms of the Agreement, the prevailing Party shall be entitled to its reasonable attorney fees.

22.10 Not applicable.

22.11 Public Records

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES (2024), TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS AGREEMENT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT PRRCONTRACT@FORTLAUDERDALE.GOV, 954-828-5002, CITY CLERK'S OFFICE, 1 EAST BROWARD BOULEVARD, SUITE 444 FORT LAUDERDALE, FLORIDA 33301.

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2024), as may be amended or revised, or as otherwise provided by law.

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3. Ensure that public records that 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 completion of this Agreement if the Contractor does not transfer the records to the City.

4. Upon completion of the Agreement, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Agreement, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Agreement, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

22.12 Non-Discrimination

The Contractor shall not discriminate against its employees based on the employee's race, color, religion, gender, gender identity, gender expression, marital status, sexual orientation, national origin, age, disability, or any other protected classification as defined by applicable law.

1. The Contractor certifies and represents that the Contractor offers the same health benefits to the domestic partners of its employees as are offered its employees' spouses or offers its employees the cash equivalent of such health benefits because it is unable to provide health benefits to its employees' domestic partners, and that the Contractor will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as may be amended or revised, ("Section 2-187"), during the entire term of this Agreement.

2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.

3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.

4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.

5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in Section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

22.13 E-Verify

In accordance with 448.095, Florida Statutes (2024), as may be amended or revised, the Contractor and its subcontractors shall register with and use the E-Verify system to electronically verify the employment eligibility of newly hired employees.

1. The Contractor shall require each of its subcontractors, if any, to provide the

SAMPLE CONSTRUCTION AGREEMENT

Contractor with an affidavit stating that the subcontractor does not employ, contract with, or subcontract with an unauthorized alien. The Contractor shall maintain a copy of the subcontractor's affidavit for the duration of this Agreement and in accordance with the public records requirements of this Agreement.

2. The City, the Contractor, or any subcontractor who has a good faith belief that a person or entity with which it is contracting has knowingly violated Subsection 448.09(1), Florida Statutes (2024), as may be amended or revised, shall terminate the contract with the person or entity.

3. The City, upon good faith belief that a subcontractor knowingly violated the provisions of Subsection 448.095(5), Florida Statutes (2024), as may be amended or revised, but that the Contractor otherwise complied with Subsection 448.095(5), Florida Statutes (2024), as may be amended or revised, shall promptly notify Contractor and order the Contractor to immediately terminate the contract with the subcontractor, and the Contractor shall comply with such order.

4. A contract terminated under Subparagraph 448.095(5)(c)1. or 2., Florida Statutes (2024), as may be amended or revised, is not a breach of contract and may not be considered as such. If the City terminates this contract under Paragraph 448.095(5)(c), Florida Statutes (2024), as may be amended or revised, the Contractor may not be awarded a public contract for at least one year after the date on which the contract was terminated. The Contractor is liable for any additional costs incurred by the City as a result of termination of this Agreement.

5. Contractor shall include in each of its subcontracts, if any, the requirements set forth in this Section, including this subparagraph, requiring any and all subcontractors, as defined in Subsection 448.095(1)(e), Florida Statutes (2024), as may be amended or revised, to include all of the requirements of this Section in their subcontracts. Contractor shall be responsible for compliance by any and all subcontractors, as defined in Subsection 448.095(1)(e), Florida Statutes (2024), as may be amended or revised, with the requirements of Section 448.095, Florida Statutes (2024), as may be amended or revised.

22.14 Anti-Human Trafficking:

As a condition precedent to the effectiveness of this Agreement, the Contractor shall provide the City with an affidavit signed by an officer or a representative of the Contractor under penalty of perjury attesting that the Contractor does not use coercion for labor or services as defined in Section 787.06, Florida Statutes (2024), as may be amended or revised.

22.15 Foreign Countries Of Concern:

As a condition precedent to the effectiveness of this Agreement, the Contractor shall provide the City with an affidavit signed by an officer or representative of the Contractor under penalty of perjury attesting that the Contractor does not meet any of the criteria in paragraphs (2)(a)-(c) of Section 287.138, Florida Statutes (2024), as may be amended or revised.

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22.16 Default:

In the event the Contractor fails to comply with the provisions of this Agreement, the City may declare the Contractor in default and notify it in writing, giving a reasonable time to cure the default, but in no event shall this time period exceed five (5) calendar days unless otherwise agreed to by the parties. In such event, the Contractor shall only be compensated for any services completed as of the date written notice of default is served.

22.17 Severability:

If any portions of this Agreement shall be held invalid or unenforceable, such invalidity or unenforceability shall not affect any other provisions hereof, and this Agreement shall be construed and enforced as if such provisions had not been included.

[THIS SPACE WAS INTENTIONALLY LEFT BLANK]

SAMPLE CONSTRUCTION AGREEMENT

CITY

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

CITY OF FORT LAUDERDALE, a Florida municipal corporation

By: _____
RICKELLE WILLIAMS
City Manager

Date: _____

ATTEST:

By: _____
DAVID R. SOLOMAN
City Clerk

Approved as to Legal Form and correctness:
D'Wayne Spence, Acting City Attorney

By:_____
RHONDA MONTOYA HASAN
Assistant City Attorney

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CONTRACTOR

WITNESSES:

CONTRACTOR.,
a Florida company/corporation.

_____ By:_____

_____ Print Name:_____
Print Name

Title:_____

ATTEST:

_____

_____
Print Name

By:_____
Secretary

(CORPORATE SEAL)

STATE OF _____:

COUNTY OF _____:

The foregoing instrument was acknowledged before me by means of ❑ physical presence or ❑ online notarization, this _____ day of _____, 2025, by _____, (NAME OF AUTHORIZED OFFICER) as _____ (TITLE OF AUTHORIZED OFFICER), for _____ (NAME OF COMPANY), a Florida _____(TYPE OF COMPANY).

_____
(Signature of Notary Public - State of Florida)

_____
(Print, Type, or Stamp Commissioned Name of Notary Public)

Personally Known_____ OR Produced Identification_____
Type of Identification Produced: _____

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SECTION 01001 - GENERAL REQUIREMENTS

PART 1 PROJECT DESCRIPTION

1.1 GENERAL

A. A brief description of the Work is stated in the INVITATION TO BID. To determine the full scope of the project or any particular part of the project, coordinate the applicable information in these Contract Documents and review the available project drawings.

B. The Work under this Contract shall be performed by the Contractor as required by the City of Fort Lauderdale (City). Work will be authorized by a Notice to Proceed (NTP) issued to the Contractor. The Contractor shall complete all work within the number of calendar days stipulated in the Contract unless an extension in the time of completion is granted by the City, as stated in the Instructions to Bidders. Upon satisfactory completion of the work and compliance with applicable provisions in the Contract Documents, the Contractor will receive final payment for all work done.

C. The following additional information, though not all-inclusive, is given to assist contractors in their evaluation of the work required to meet the project objectives.

D. The Contractor shall become familiar with the existing operating conditions of the City's water system, drainage system and pumping stations and take such into consideration in planning and scheduling work. No extra claims shall be made for work required to achieve conditions beyond those obtainable under normal operation of the existing transmission, collection and pumping facilities necessary to accomplish the Work.

E. Contractor shall be required to submit a Maintenance of Traffic (MOT) plan for work in the county and state highways and City streets. Contractor shall coordinate with MOTs for nearby or highway work and obtain approval for all traffic control as required by the permits contained elsewhere in this Section.

F. In cases of discrepancy, the governing order of the documents is as follows:

1. Special Provisions.
2. Plans
3. Project Technical Specifications
4. City of Fort Lauderdale Standard Details (current edition)
https://www.fortlauderdale.gov/government/departments-i-z/public-works/engineering-division/cadd-standards
5. Broward County Standard Details (current edition)
https://www.broward.org/Traffic/Pages/Publications.aspx
6. FY2023-24 FDOT Standard Plans.
https://www.fdot.gov/design/standardplans/current/default.shtm
7. FY2024-25 FDOT Standard Specifications.
https://www.fdot.gov/programmanagement/implemented/specbooks/default.shtm

PART 2 SEQUENCE OF OPERATIONS

2.1 SCHEDULING

A. General: Prepare and submit schedule in accordance with the provisions of Section 01311, Construction Progress Documentation.

B. Plan the work and carry it out with minimum interference to the operation of the existing facilities. Prior to starting the work, confer with the City's Engineer to develop an approved work schedule, which will permit the facilities to function normally as practical. It may be necessary to do certain parts of the construction work outside normal working hours in order to avoid undesirable conditions. The Contractor shall do this work at such times and at no additional cost to the City. Do not make connections between existing work and new work until necessary inspection and tests have been completed on the new work and it is found to conform in all respects to the requirements of the Contract Documents.

C. No work shall be started until the Contractor has received approved shop drawings, established material/delivery dates for all equipment, and received approval of the construction schedule from the Engineer. The Contractor shall have sufficient manpower, equipment, and material to complete the project.

D. No work shall commence without express consent of the City's Engineer.

E. If a privately owned staging area is required, no work shall commence until approval of the facility is obtained from City Planning and Zoning in accordance with Section 47-19.2 of the Unified Land Development Regulations. Submit a copy of the approval and agreement to the City's Engineer.

2.2 MOBILIZATION AND DEMOBILIZATION

A. Contractor shall be responsible for mobilization and demobilization of labor, materials, and equipment. Payment for mobilization and demobilization shall be included in the lump sum price indicated in the Proposal for the project.

2.3 COORDINATION

A. Contractor shall cooperate in the coordination of separate activities in a manner that will provide the least interference with the Owner's operations and other contractors and utility companies working in the area, and in the interfacingand connection of the separate elements of the overall project work.

B. If any difficulty or dispute should arise in the accomplishment of the above, the problem shall be brought immediately to the attention of the City's Engineer.

2.4 OPERATION OF EXISTING SYSTEM PROHIBITED

A. At no time is the Contractor to undertake to close off any utility lines or open valves or take any other action, which would affect the operation of existing systems. The City's operations crew will operate all valves. Provide at least one business day notice to City prior to any operations.

PART 3 SITE CONDITIONS

3.1 SITE INVESTIGATION AND REPRESENTATION

A. The Contractor acknowledges satisfaction as to the general nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, availability of labor, water, electric power, roads, and uncertainties of weather, river stages, or similar physical conditions, the character of equipment and facilities needed preliminary to and during the prosecution of the work, and all other matters which can in any way affect thework or the cost thereof under this Contract.

B. Failure by the Contractor to become acquainted with the physical conditions and all the available information will not relieve the Contractor from responsibility for properly estimating the difficulty or cost of successfully performing the Work.

C. The Contractor warrants that as a result of examination and investigation of all the aforesaid data, the Contractor can perform the work in a good and workmanlike manner and to the satisfaction of the City. The City assumes no responsibility for any representations made by any of its officers or agents during or prior to the execution of this Contract, unless (1) such representations are expressly stated in the Contract; and (2) the Contract expressly provides that the responsibility therefore is assumed by the City.

3.2 INFORMATION ON SITE CONDITIONS

A. General: Information obtained by the City's Engineer regarding siteconditions, subsurface information, groundwater elevations, existing construction of site facilities, as applicable, and similar data will be available for inspection at the office of the City's Engineer upon request. Such information is offered as supplementary information only. The City's Engineer does not assume any responsibility for the completeness or interpretation of such supplementary information.

3.3 UTILITIES

A. The Contractor shall be responsible for determining and/or confirming, at his cost, the locations of all utilities within the project area, and shall be responsible for contacting each utility for location and notification prior to commencing work.

B. The Contractor shall contact potentially affected utilities as provided in Section 01060, Regulatory Requirements & Permits.

C. The Contractor shall contact Sunshine State One Call at 811 or visit www.callsunshine.com at least 2 business days (10 business days for water crossings) prior to any excavation and make arrangements for locating all utilities in the project area.

3.4 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

A. Where the Contractor's operations could cause damage or inconvenience to utilities, telephone, television, power, water, or sewer systems, the operations shall be suspended until all arrangements necessary for the protection of these utilities and services have been made by the Contractor with the owner of the utility

affected.

B. Notify all utility offices, which are affected by the construction operation at least 2 business days in advance. Under no circumstances expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities.

C. The Contractor shall be solely and directly responsible to the Owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage, which may result from the construction operations under this Contract.

D. Neither the Owner nor its officers or agents shall be responsible to the Contractor for damages as a result of the Contractor's failure to protect utilities encountered in the Work.

E. In the event of interruption to domestic water, sewer, storm drain, or otherutility services as a result of accidental breakage due to construction operations, promptly notify the proper authority. Cooperate with said authority in restoration of service as promptly as possible and bear all costs of repair. In no case shall interruption of any water or utility service be allowed to exist outside working hours unless prior approval is granted.

F. In the event the Contractor encounters water service lines or sewer laterals that interfere with trenching, he may, by obtaining prior approval of the property owner, and the City's Engineer, cut the service, dig through, and restore the service with similar and equal materials at the Contractor's expense.

G. The Contractor shall replace, at his own expense, all existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract documents or ordered by the City's Engineer.

H. Telephone and communications drops and signal systems may extend throughout the project area. Properly located cable, conduit, interface equipment, pull or junction boxes and other signal or systems equipment damaged by the Contractor shall be replaced at the Contractor's expense.

   a. Damaged cable shall be replaced as an entire run, from junction box to junction box.

   b. Notify Broward County Engineering two business days in advance of the need to remove traffic detection loops.

   c. Contractor shall verify marked cables and signal systems prior to excavation.

3.5 INTERFERING STRUCTURES

A. Take necessary precautions to prevent damage to existing structures whether on the surface, aboveground, or underground.

B. Protect underground and aboveground existing structures from damage, whether or not they lie within the limits of the easements obtained by the City. Where such existing fences, gates, sheds, buildings, or any other structure must be removed to properly carry out the construction, or are damaged during construction, restore to their original condition to the satisfaction of the property owner involved at the Contractor's own expense. Notify the City of any damaged underground structure and make repairs or replacements before backfilling.

C. Without additional compensation, the Contractor may remove and shall replace in a condition as good as or better than original, such small miscellaneous structures as fences, mailboxes, and signposts that interfere with the Contractor's operations.

3.6 EASEMENTS AND WORK ON PRIVATE PROPERTY

A. Where portions of the work are located on public or private property, easements and permits will be obtained by the City, except as otherwise noted in these Specifications. Easements will provide for the use of property for construction purposes to the extent indicated on the easements. Copies of these easements and permits are available upon request to the City. It shall be the Contractor's responsibility to determine the adequacy of the easement obtained in every case and to abide by all requirements and provisions of the easement. The Contractor shall confine his construction operations to within the easement limits or street right-of-way limits or make special arrangements with the property owners or appropriate public agency for the additional area required. Any damage to property, either inside or outside the limits of the easements provided by the City or street rights-of-way, shall be the responsibility of the Contractor as specified herein. The Contractor shall provide immediate notice to the owner of any damage to fencing and provide temporary fencing as required to provide a functionally similar level of security. The Contractor shall remove, protect, and replace all fences or other items encountered on public or private property. Before final payment will be authorized by the City's Engineer, the Contractor will be required to furnish the City with written releases from property owners or public agencies where side agreements or special easements have been made by the Contractor or where the Contractor's operations, for any reason, have not been kept within the construction right-of- way obtained by the City or the street right-of-way.

B. The Contractor shall be responsible for all damage to private property where work related activities have occurred without proper easement or authorization. The City may withhold payment to the Contractor pending resolution of any claims by private owners.

C. It is anticipated that the required easements and permits will be obtained before construction is started. However, should the procurement of any easement or permit be delayed, the Contractor shall schedule and perform the work around these areas until such a time as the easement or permit has been secured.

D. Prior to removing an existing structure or item, provide written notice to the Owner at least 14 days in advance of the anticipated removal.

E. The Contractor shall not engage in private construction activities within the project area without the presence of a contract with the private owner of the property

containing a hold harmless clause protecting the City from any and all damages that occur during the performance of the privately authorized work.

PART 4 SAFETY AND CONVENIENCE

4.1 SAFETY AND ACCESS

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

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

C. The Contractor shall notify all residences and businesses of planned construction at least 5 (five) business days prior to the start of work in the block where they are located. Such notices shall be brochures or door-hangers with sufficient information to describe the extent and duration of the planned work. Notification activities shall be coordinated with the City's Engineer.

D. Homeowners and business owners shall be provided reasonable access. The Contractor shall provide temporary sidewalks, bridges or driveway access, including safe passage over open excavations as required.

4.2 ACCIDENT REPORTS

A. In addition, the Contractor must promptly report in writing to the City's Engineer all accidents whatsoever arising out of, or in connection with, the performance of the work whether on, or adjacent to, the site, giving full details and statements of witnesses. If death or serious injuries or serious damages are caused, the accident shall be reported immediately by telephone or messengerto the Engineer.

B. If a claim is made by anyone against the contractor or any subcontractor on account of any accident, the Contractor shall promptly report the facts in writing to the City's Engineer, giving full details of the claim.

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

A. Authorized representatives of the state, federal, or local governmental agencies, shall at all times have safe access to the work, and the Contractor shall provide proper facilities for such access and inspection.

4.4 PROTECTION OF PROPERTY

A. Protect stored materials located adjacent to the proposed work. Notify property owners affected by the construction at least two business days in advance of the time construction begins. During construction operations, construct and maintain such facilities as may be required to provide access by all property owners to their property. No person shall be cut off from access to his residence or place of business for a period exceeding 2 hours unless the Contractor has made special arrangements with the affected persons.

B. The Contractor shall identify and isolate his active work zone in such a manneras to exclude all personnel not employed by him, the City's Engineer, and the City.

4.5 FIRE PREVENTION AND PROTECTION

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

4.6 ACCESS FOR POLICE, FIRE, AND POSTAL SERVICE

A. Notify the fire department and police department before closing any street or portion thereof. No closing shall be made without the Owner's approval of MOT plan. Notify said departments when the streets are again passable for emergency vehicles. Do not block off emergency vehicle access to consecutive arterial crossings or dead-end streets, in excess of 300 linear feet, without special written permission from the fire department. Conduct operations with the least interference to fire equipment access, and at no time prevent such access. MOT plans that result in restricted access for emergency vehicles must be submitted and approved 2 weeks prior to the proposed closing with separate and specific notification made to the Engineer to provide for appropriate agency coordination.

B. The Contractor shall leave a night emergency telephone number or numbers with the police department, the Engineer, and the Owner, so that contact may be made easily at all times in case of barricade and flare trouble or other emergencies.

C. Maintain postal service facilities in accordance with the requirements of the U.S. Postal Service. Move mailboxes to temporary locations designated by the U.S. Postal Service, and at the completion of the work in each area, replace them in their original location and in a condition satisfactory to the U.S. Postal Service.

PART 5 PRESERVATION, RESTORATION, AND CLEANUP

5.1 SITE RESTORATION AND CLEANUP

A. At all times during the work, keep the premises clean and orderly, and upon completion of the Work, repair all damage caused by equipment and leave the project free of rubbish or excess materials of any kind.

B. Stockpile excavated materials in a manner that will cause the least damage to adjacent lawns, grassed areas, gardens, shrubbery, or fences, regardless of

whether these are on private property, or on state, county, or city rights-of-way. Remove all excavated materials from grassed and planted areas and leave these surfaces in a condition equivalent to their original condition. Replace excavated areas as specified in Section 02315, Fill and Backfill, raked and graded to conform to their original contours.

5.2 FINISHING OF SITE, BORROW, AND STORAGE AREAS

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

5.3 HISTORIC PRESERVATION

A. The Contractor shall coordinate with the historic preservation representative supplied by the owner for initial excavation operations. If the project work should uncover prehistoric or historic artifacts associated with Native American cultures, early colonial cultures, or American settlements, all project activities in the area shall cease immediately.

B. All such discoveries shall be reported to the Division of Historical Resources. Review and Compliance Section at (800) 847-7278.

C. Project activities in the affected area cannot resume without authorization from the Division of Historic Resources.

PART 6 PERMITS

6.1 GENERAL

A. City has prepared the following application for Permit:

a. BCTED Signing and Marking Permit Reference # 241010061
b. BCSWM Modification to Permit No. SWM2018-081-7

B. Permits to be obtained by the Contractor include, but are not limited to the following:

a. Local, County, and State contracting licenses as required.
b. MOT approval from local, county, and state agencies as required.
c. Broward County Planning and Environmental Regulation Division (BCPERD): Dewatering permit, including National Pollution Discharge Elimination System (NPDES) permit if required.
d. Environmental Recourse Permit if necessary.
e. Any other required permit for the project.

C. The Contractor shall comply with all applicable permit conditions.

END OF SECTION

SECTION 01005 - TECHNICAL PROVISIONS

PART 1 GENERAL

1.1 SCOPE

A. Work under this contract includes furnishing materials, labor, tools equipment, supervision and incidentals necessary to construct infrastructure improvements.

1.2 ITEMS SPECIFIED ON DRAWINGS

A. Items of material, equipment, machinery and the like may be specified on the Drawings and not in the Technical Specifications. The Contractor shall provide such items in accordance with the General Notes on the Drawings.

1.3 FIELD LAYOUT OF THE WORK AND RECORD DRAWINGS

A. After completion of construction, the Contractor shall provide three (3) sets of signed & sealed As-Built Drawings with all the As-Built information; all locations, coordinates, dimensions, and elevations of the constructed facilities, certified, signed and sealed thereon by a Land Surveyor registered in the State of Florida. All elevations shall refer to NAVD 88 (North American Vertical Datum of 1988) and all state plane coordinates shall be NAD 83 (with 1990 adjustment). The cost of such field layout and recording work shall be the responsibility of the Contractor. The As-Built utility information shall meet the requirements of the City of Fort Lauderdale and any other permitting agencies having jurisdiction on this project.

1.4 SALVAGE

A. Any existing equipment or material, including but not limited to valves, pipes, fittings, couplings, etc., which is removed as a result of construction under this project may be designated as salvage by the Contract Administrator, and if so, shall be delivered clean to the City at a location directed by the Contract Administrator. Any equipment or material not worthy of salvaging shall be disposed of by the Contractor at a suitable location in accordance with all applicable regulations, ordinances and laws at no additional cost to the City.

1.5 POWER

A. The Contractor shall furnish and pay for all electrical power required for the construction, testing and trial operation, prior to final acceptance by the City.

1.6 WATER SUPPLY

A. All water required for testing, flushing, and construction shall be furnished by the City and paid for by the Contractor. The purchase price shall be the prevailing rate as published by the City. The quantity of water used shall be determined by reading the meter at the start and at the finish of construction. The

Contractor shall make all arrangements and incur all expense involvedin having the City provided with a vacuum relief or backflow preventer which shall meet the requirements of ASA A40.6, latest revision, and the local administrative authority.

1.7 MAINTENANCE

A. The Contractor shall fully cooperate at all times with the City inorder to maintain the operation of the existing water and/or sewer system with the least amount of interference and interruption possible. The schedule plans and work of the Contractor shall at all times be subject to alteration and revision if necessary for public health and safety considerations. The creation of a public nuisance will not be permitted.

B. It may be necessary to interrupt the operation of the existing water and/or sewer system. In all cases where the Contractor must cause an interruption, Contractor shall prepare and submit to the City's Engineer four (4) working days prior to commencing the work, a complete description of the proposed procedure and a time schedule, which Contractor will guarantee. At least forty-eight (48) hours prior to the time proposed for starting the work, the City's Engineer will notify the Contractor whether or not the work will be permitted as proposed.

a. The City's Engineer reserves the right to require the Contractor to work 24 hours per day in all cases where, in Engineer's opinion, interference with operation of the system may result in dangerous health hazards or offensive conditions.

b. In no case will the Contractor be permitted to interfere with the existing system until all materials, supplies, equipment, tools and incidentals necessary to complete the work are on the site. Backup equipment on key equipment items shall be required on work necessitating interference with the existing system.

1.8 SITE RESTORATION

A. The Contractor shall remove all excess material and shall clean up and restore the site to its original condition or better. All damage, as a result of work under this Contract, done to existing structures, pavement, driveways, paved areas, curbs and gutters, sidewalks, shrubbery, grass, trees, utility poles, utility pipe lines, conduits, drains, catch basins, flagstones, rocked, graveled, or stabilized areas of driveways, and including all obstructions not specifically named herein, shall be repaired, or replaced, as determined by the City's Engineer. Site restoration shall be done in a timely manner as the work progresses. Site restoration work shall be completed on private property within 30 days after being disturbed.

1.9 SANITARY FACILITIES

A. The Contractor shall provide temporary facilities at the site as directed by

the City's Engineer.

1.10 STANDARDS

A. Wherever in these Technical Specifications or in the drawings name and/or number refer to certain standards or regulations, the applicable publication shall be the latest revision thereof. Reference by abbreviation is made in accordance with the Section 01070, "Abbreviations of Institutions."

1.11 QUALITY OF ITEMS

A. All material furnished for this project shall be new and unused. Any material, which has become excessively weathered or damaged since manufacture, shall not be considered as new. City's Engineer shall be the sole judge as to what constitutes excessive weathering or damage.

1.12 TESTING

A. The City of Fort Lauderdale Engineering Minimum Design and Construction Standards may require that materials and equipment supplied meet given standards and testing to demonstrate conformance to the standards is a part of those standards. The cost of these tests shall be the obligation of the Contractor and no extra charge shall be made to the City on account of such testing.

B. The Contractor shall select a recognized, independent testing laboratory to make tests on concrete, asphalt, soils and other materials for the construction phase, to test for conformity with the Technical Specifications, FDOT and Broward County Construction Standards, and any other applicable testing/Quality control standards as required by all permitting agencies having jurisdiction over this project. The Contractor shall supply the necessary samples for this testing without cost to the City. The costs for actual testing shall be paid by the Contractor and scheduling of all required tests will be the responsibility of the Contractor.

C. Construction in areas where installation and restoration must satisfy the additional requirements of a local, state or federal authority may require testing to demonstrate conformance. The Contractor shall ascertain the extent oftesting required by regulatory agencies within these areas. The Contractor is responsible for performing such tests, including but not limited to, tests of compaction, and all costs for these tests shall be the obligation of the Contractor and no extra charge shall be made to the City on account of such testing.

1.13 UTILITY CROSSINGS

A. It is intended that wherever existing utilities must be crossed that the pipe may be deflected up to 75% of the manufacturer's recommended limits but shall not exceed the allowable limits of the City. Adequate cover shall be used to

adequately clear the obstruction. However, when in the opinion of the City's Engineer, this procedure is not feasible, City's Engineer may direct the use of fittings to clear a utility crossing as detailed on the Drawings. The cost of such crossing including joint restraints shall be on the basis of the schedule of pay items applied.

B. Deflections and adjustments of the proposed water and/or sewer mains to avoid all other existing utilities shall be verified/determined in the field during construction.

1.14 BASIS OF MEASUREMENT

A. Where mains are to be paid for on a unit price per linear foot basis, the number of linear feet will be determined by measurement along the centerline of the pipe in place, including fittings. Square yardage will be determined by the actual number of square yards installed.

1.15 ADJUSTMENT AND RELOCATION OF EXISTING LINES

A. When the drawings indicate that existing lines must be deflected, the pipe may be deflected up to 75% of the manufacturer's recommended limits but shall not exceed the allowable limits of the City. The Contractor will need to be directed by the Engineer. If the Engineer determines that the use of new pipe and fittings is required for deflection, the Contractor will be directed to use this method. The price for either method shall be based upon the unit prices bid. This does not apply to connections to existing system (Paragraph 1.16, this Section).

1.16 CONNECTION TO EXISTING SYSTEM

A. The Contractor shall perform all work necessary to locate, excavate and prepare for connection to the existing mains as shown on the Drawings. The cost of this work and for the actual connection to the existing main shall be based upon the unit prices for installing the pipe and appurtenances and shall not result in any additional cost to the City. The cost of ductile iron sleeves shall be included in the fittings unit price.

B. Additional valves used for the Contractor's convenience shall not be considered as an extra cost payable by the City for the tie-in to the existing system.

C. During all phases of the work, (i.e. installation, testing and restoration), the Contractor shall ensure at all times the safe operation of the existing water and/or sewage systems. Service to the customers shall be maintained with the least amount of interference and interruption as possible.

1.17 RELOCATIONS

A. The Contractor shall be responsible for the relocation of structures that are shown on the drawings, including, but not limited to, light poles, signs,

fences, piping, conduits and drains that interfere with the proposed positioning of the water/sewer mains. The cost of all such relocations shall be included in the prices bid for the appropriate items.

1.18 UTILITIES

A. Existing utilities are shown on the Drawings insofar as information is reasonably available; however, it will be the responsibility of the Contractor to preserve all existing utilities whether shown on the Drawings or not. If utility conflicts are encountered by the Contractor during construction, Contractor shall give sufficient notice to the City so that they may make the necessary adjustments. Damage to any utility, which in the opinion of the City is caused by carelessness on the part of the Contractor, shall be repaired at the expense of the Contractor.

1.19 GUARANTEE

A. The Contractor shall guarantee the equipment, material and laborperformed under the Contract against any and all failures in proper use and operation for a period of one (1) year from date of written acceptance by the City.

B. The Contractor shall also obtain warranties from manufacturers for each piece of equipment furnished so that the manufacturer's warranty fully covers the equipment for a period of one (1) year from the date of written acceptance by the City, unless otherwise specified in the specifications.

1.20 PERFORMANCE OF WORK

A. The Contractor shall provide all personnel and equipment required to complete all work specified herein and on the Drawings. In an emergency, if the City determines that it must provide staff and/or equipment to assist the Contractor in the satisfactory performance of the Contract terms and conditions, the Contractor at the applicable prevailing wage rates shall reimburse the City.

B. Contractor shall provide forty-eight (48) hours advance written notice tothe City for approval of Contractor’s intention to work overtime on weekdays or to work on the weekends.

1.21 BARRICADING (SAFETY)

A. The Contractor shall be responsible for the furnishing and maintaining of all required barricades, either the lighted or the reflector type, to ensure the public's safety during open trench work or for any other potentially unsafe or hazardous construction activities. Barricades shall be located and displayed in conformance with the most stringent regulations required by the governing agencies. All costs for barricading, including any permits, shall be the responsibility of the Contractor.

B. All work in public rights-of-way and on private property shall be done in strict compliance with these specifications and Florida Department of Transportation Minimum Standards. Failure to so comply will result in cessation of operations and the removal of project related obstructions from the right-of-way until compliance is achieved.

1.22 EMERGENCY ACCESS AND SECURITY

A. In order to provide protection to the workers and residents, the Contractor shall maintain emergency access to the property at all times during construction. These access ways shall be protected and delineated with lighted barricades or other such devices as approved by the regulatory agency. Both ends of the emergency access way shall be blocked in accordance with the MOT permit approved by the City with signage indicating that this access way is to be used by emergency vehicles only.

B. No trenches or holes shall be left open after working hours. In the event a trench must be left open after hours, it shall be done so only with the express written permission from the Engineer, and it shall be the Contractor's responsibility to provide proper protection of the open trench or hole as required by the regulatory agency. In addition, the Contractor shall provide a security guard at the site whenever the Contractor's personnel are not present, 24 hours per day/ 7 days per week. It shall be the Security Guard's responsibility to protect the open trench or hole from trespassers and to direct emergency personnel on site. The Security Guard shall not have any other responsibilities such as operating pumps or equipment but shall be dedicated to protecting the trench or open hole. The Security Guard shall be equipped with a wireless telephone capable of calling 911 to report an emergency and shall keep that telephone on their person at all times. In addition to this provision the Contractor shall maintain trench safety and comply with current OSHA regulations and the Trench Safety Act. The Contractor shall maintain and keep all safety barricades, signage, flashers, and detours, in operatingcondition. A copy of the approved MOT plans, and details, shall be on site at all times.

C. All roads are to be maintained during the described construction as to always allow Emergency Access. This item will be paid for under the bid item forMobilization as named in the Bid Schedule.

1.23 VIBRATORY COMPACTION

A. The use of vibratory compaction equipment shall be limited to a total gross weight of three (3) tons. The use of vibratory equipment shall be limited to compacting backfill of utility trenches and subgrade of paved areas only. If approved in writing by the Engineer, larger vibratory compaction equipment may be allowed if operated in a static mode only.

1.24 REPORTING OF DAMAGE CLAIMS

A. The Contractor shall keep the City informed of any damage claims made against the Contractor during the construction period. All claims for automobile damage, property damage/bodily injury will be reported to the Contract Administrator within 24 hours of receipt of notice. Contractor will conduct a timely investigation of the claim and determineif they will honor the claim and/or report to their insurance carrier. Contractor will advise the City of Fort Lauderdale in writing of their decision/referral to carrier.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01010 - SUMMARY OF WORK

PART 1 GENERAL

1.1 SCOPE

A. City: City of Fort Lauderdale
City's Representative/Engineer: *Brightny Dorelus, PMP*
Project Manager II, or designated representative.

B. The general location of the Project is NW 5th Avenue between Sistrunk Boulevard and NW 7th Street in Fort Lauderdale, Florida. The scope of work for this Contract comprises of the construction of the site work described herein. The intent of the Project is to improve walkability and connectivity by providing new concrete sidewalks, on-street parking stalls, pedestrian seating areas, decorative crosswalks, site furnishings, landscape and irrigation improvements, curb and gutter improvements, signing and marking improvements, and milling and resurfacing of the existing asphalt.

C. The work to be performed by the selected Contractor shall include the acquisition of all tools, equipment, materials, and other supplies including but not limited to fuel, power, water, and communication devices required to complete the scope of work stated in the Contract Documents for the Project. The work also includes the performance of all labor, work, and other operations required to complete the scope of work stated in the Contract Documents for the Project. All work must be complete with all work, materials, and services not directly specified in the Contract Documents but necessary for the completion of the Project to fulfill the intent of the City shall be performed and installed by the Contractor at no additional cost to the City above what is agreed upon in the Contract Documents.

1.2 NOTICE TO BIDDERS

A. The successful bidder, in order to be considered responsive, must possess the appropriate License as described in the Contract Documents.

B. It should also be noted that the successful bidder will, at the time of the pre-construction conference, be required to show that each of the Contractor's subcontractors is in compliance with the City's Code of Ordinances.

1.3 SITE INVESTIGATION

A. The Contractor, by virtue of signing the Contract, acknowledges that Contractor and all subcontractors have satisfied themselves to the nature and location of the work, the general and local conditions including, but not restricted to: those bearing upon transportation; disposal, handling and storageof materials; access roads to the site; the conformation and conditions of the work area; and the character of equipment and facilities needed preliminary to and during the performance of the work. Failure on the part of the Contractor to completely or properly evaluate

the site conditions shall notbe grounds for additional compensation.

B. Soil boring information will not be furnished to the Contractor. The Contractor, by virtue of signing the Contract, acknowledges that Contractor and subcontractors have satisfied themselves as to the nature and extent of soil and (underground) water conditions on the project site. No additional payment will be made to the Contractor because of differences between actual conditions and those shown by the boring logs.

1.4 WORK BY OTHERS

A. Concurrent Work by Other Contractors. The Contractor's attention is directed to the fact that other Contractors may conduct work at the site during the performance of the Work under this Contract. The Contractor shall conduct its operations so as to cause little or no delay to Work of such other Contractors and shall cooperate fully with such Contractors to provide continued safe access to their respective portions of the site, as required to perform work under their respective contracts.

B. Interference with Work on Utilities. The Contractor shall cooperate fully with all utility forces of the Owner or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the Work, and shall schedule the Work to minimize interference with said relocation, altering, or other rearranging of facilities.

1.5 WORK SEQUENCE

A. The Contractor shall schedule and perform the work in such a manneras to result in the least possible disruption to the public's use of the parking lot and park facilities, roadways, driveways, and utilities. Utilities shall include but not be limited to water, sewerage, drainage structures, ditches and canals, gas, electric, television and telephone. Prior to commencing with the Work, Contractor shall perform a location investigation of existing underground utilities and facilities in accordance with Section 01530 entitled "Protection of Existing Facilities" and shall have obtained all required permits and permissions, Contractor shall also deliver written notice to the City, Engineer, and property occupants (private and public) of all planned disruption to roadway, driveways, temporary displacement of fences, mailboxes, street signs and traffic signs, and utilities 72 hours in advance of disruption.

1.6 WORK SCHEDULE

A. Time is of the essence in completing this project. Because time is of the essence the Contractor shall commit the necessary resources to this project tocomplete it in a timely manner. Those resources may include multiple working crews, working overtime, etc. Because time is of the essence, the Contractor's construction progress will be monitored closely on a weekly

basis. The Construction progress will be measured with the construction schedule submitted by the Contractor. If the Engineer determines thatthe Contractor does not meet the Critical Path Method (CPM) as specified in Section 01311, the Contractor will be required to commit those resources necessary to ensure the completion of the project in a timely manner including working overtime, adding other work crews, etc. All costs incurred to implement measure to complete the work in timely manner will be borne by the Contractor at no additional cost to the Owner.

B. REQUIRED PERIODS OF WORK SUSPENSION

a. Contractor shall shut down operations for all City Holidays, terminating production work by noon on the day preceding the holiday (or the weekend before said holiday) and not resuming operations until the start of the following week (or the day after the holiday, whichever is later). The Contractor shall ensure that thesite is restored per Sections 01001 and 01010 and all areas that are off limits to the public will be clearly delineated and protected. For a full list ofholidays, please refer to the City; however these include, but are not limited to New Year's Eve and Day, Martin Luther King's Birthday, Memorial Day, the 4^{4th} of July, Labor Day, Thanksgiving Day and the day after Thanksgiving Day, Christmas Eve and Christmas.

b. The Contractor shall include these provisions in the schedule required in 01311 and there shall be no additional time granted for these work suspensions.

c. No additional compensation shall be granted for demobilization, cleaning, and remobilization as a result of these work suspensions.

d. During the work suspensions, the Contractor shall remain liablefor the safety and security of the project site and be available 24 hours per the Contract Documents. Contractor shall have personnel visit the site daily during these suspensions to ensure the safety and security of the site.

C. SCHEDULE

a. Contractor shall submit scheduling information for the work as required in Section 01311 "Construction Progress Documentation".

b. No separate payment shall be made for preparation and/or revision of the schedule.

D. On-Site Work Hours: Work hours shall be defined at the pre-construction meeting and shall comply with all permit conditions. Except otherwise indicated, work shall be performed during normal business working hours of 7:30 a.m. to 4:00 p.m., Monday through Friday.

1.7 COMPUTATION OF CONTRACT TIME

A. It is the Contractor's responsibility to provide clear and convincing documentation to the Engineer as to the effect additional work will have with respect to additional contract time extension that may be justified. If additional quantities of work can be carried out concurrent with other existing construction activities without disrupting the critical path of the project, then no contract time extension will be granted. The Contractor is obligated to provide documentation to the Engineer if additional elements of work affect the critical path of the project. If work set forth in the original scope of the project is deleted, the contract time may be reduced. This contract is a calendar day contract. While the Contractor may be granted time to suspend work operations for vacations or holidays, contract time will not be suspended. During suspensions, the Contractor shall be responsible for all maintenance of traffic and liability without additional compensation from the City.

1.8 CONTRACTOR USE OF PREMISES

A. The Contractor's use of the project site shall be limited to its construction operations. The Contractor will arrange for storage of materials and a copy of an agreement for use of other property shall be furnished to the Engineer.

1.9 PRE-CONSTRUCTION CONFERENCE

A. After the award of Contract, a Pre-construction Work Conference will be held between the Contractor, the Engineer, the City, other interested Agencies, representatives of Utility Companies and others affected by the work. The City's Engineer will set the time and place of this conference. The Contractor shall bring to the conference a copy of the proposed workschedule for the approval by the Engineer of the proposed methods and manner of executing the work including sequences of operation and time schedule. The work shall be performed in accordance with such schedule or approved amendments thereto.

1.10 UTILITY LOCATIONS

A. As far as possible, all existing utility lines in the project area have been shown on the plans. However, the City does not guarantee that all lines are shown, or that said lines are in their true location. It shall be the Contractor's responsibility to identify and locate all underground or overhead utility lines or equipment affected by the project. No additional payment will be made to the Contractor because of discrepancies in actual and plan location of utilities and damages suffered as a result thereof.

B. The Contractor shall notify each utility company involved at least thirty (30) days prior to the start of construction to arrange for positive underground location, relocation or support of its utility where that utility may be in conflict with or endangered by the proposed construction. The Contractor shall pay for relocation of water mains or other utilities for the convenience of the Contractor. The Contractor shall pay for all charges by utility companies for temporary support of its utilities. All costs of permanent utility relocations to avoid conflict shall be the responsibility of the Contractor and the utility company involved.

C. The Contractor shall schedule and coordinate their work in such a manner that they are not delayed by the utility companies relocating or supporting their utilities. No compensation will be paid to the Contractor for any loss of time or delay.

D. All overhead, surface, and underground structures and/or utilities encountered are to be carefully protected from damage or displacement. All damage to said structures and/or utilities is to be completely repaired within a reasonable time; needless delay will not be tolerated. The City reserves the right to remedy any damage by ordering outside parties to make repairs at the expense of the Contractor. All repairs made by the Contractor are to be made tothe satisfaction of the utility owner and shall be inspected by a representative of the utility owner and the Engineer.

E. The Contractor should be aware of the Sunshine State One Call Center, which has a free locating service for Contractors and excavators. Within forty-eight hours before excavating, dial toll free 1-800-432-4770, and a locator will be dispatched to the work location. Contractor shall reasonably notify other utility companies not notified by Sunshine State One Call Center.

F. The permits listed below will be obtained for the project by the City prior to beginning construction. The Contractor is responsible for compliance with any and all permit conditions. In the event that the City must obtain permits in addition to those listed below, the Contractor shall not have any claim for damages arising from any delay caused by the City's obtaining said additional permits.

a. BCTED Signing and Marking Permit
b. BCSWM Modification

G. Permits to be obtained by the Contractor include, but are not limited to the following:

a. Local, County, and State contracting licenses.
b. BCEPGMD : Dewatering permit, including NPDES permit, if required.
c. MOT from City of Fort Lauderdale for all work along and adjacent to NW 5th Ave.

1.11 LINE AND GRADE

A. The Engineer has provided vertical and horizontal control for layout of the work in the form of benchmarks and reference points located adjacent to the work. From these controls provided, the Contractor shall develop and make all detailed surveys needed for construction as-built purposes and shall

establish all working points, lines and elevations necessary to perform the work.A Professional Land Surveyor registered in the State of Florida shall supervise this surveying work.

1.12 PROTECTION AND RESTORATION OF SURVEY MONUMENTS

A. The Contractor shall carefully protect from disturbance all survey monuments, stakes and benchmarks, whether or not established by Contractor, and shall not remove or destroy any surveying point until it has been properly witnessed by the Engineer. All major survey monuments that have been damaged by the Contractor such as section corners, 1/4 section corners; property corners or block control points shall be replaced at the Contractor's expense with markers of a size and type approved by the Engineer. The replacement shall be under the supervision of a Florida Registered Land Surveyor where directed by the Engineer.

1.13 EQUIPMENT

A. All equipment necessary and required for the proper construction of all facilities shall be on the construction site, in first-class working condition.

1.14 STORAGE SITES

A. The Contractor shall furnish, at Contractor’s expense, properly zoned areas suitable for field office, material storage and equipment service and storage. No material may be stored in the public right of way without prior authorization by the agency having jurisdiction. The Contractor shall keep these areas in a clean and orderly condition so as not to cause a nuisance or sight obstruction to motorists or pedestrians.

1.15 OWNERSHIP OF EXISTING MATERIALS

A. All materials removed or excavated from the job site shall remain the property of the City until released by the Contract Administrator, at which time it shall become the property of the Contractor, who shall dispose of it in a manner satisfactory to the Engineer.

1.16 EXCESS MATERIAL

A. Upon direction of the Engineer, all vegetation, debris, concrete or other unsuitable materials shall be disposed of in areas provided by the Contractor and approved by the Engineer. Any excess material desired to be retained by the city shall be delivered by the Contractor to adesignated area within a 5-mile radius of the project, at no extra cost to the City.

1.17 AUDIO-VISUAL PRECONSTRUCTION RECORD

A. General

a. The Contractor shall engage the services of a professional electrographer. A responsible commercial firm known to be skilled and regularly engaged in the business of preconstruction color audio-video documentation shall prepare the preconstruction videos in digital format. The electrographer shall furnish to the Engineer a list of all equipment to beused for the audio-video recording i.e., manufacturer's name, model number, specifications and other pertinent information. Additional information to be furnished by the electrographer are the names and addresses of two references that the electrographer has performed color audio-video recording for on projects of a similar nature within the last 12 months.

b. Prior to beginning the work, the Contractor shall have a continuous color audio-video recording taken along the entire length of the projectto serve as a record of preconstruction conditions. No construction shall begin prior to review and approval of the video covering the construction area by the Engineer. The Engineer shall have the authority to reject all or any portion of the videos not conforming to the specifications and order that it be redone at no additional charge. The Contractor shall reschedule unacceptable coverage within five days after being notified. The Engineer shall designate those areas, if any, to be omitted from or added to the audio-video coverage.

B. Digital Video:

a. External drive or flash drives shall be new. Any format must be approved by Engineer.

b. Contractor shall provide the Engineer and the City with one complete set of videos for the project area.

1.18 ENVIRONMENTAL PROTECTION

A. The Contractor shall furnish all labor and equipment and perform all work required for the prevention of environmental pollution during and as a result of the work under this contract. For the purpose of this contract, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life, affect other species of importance to man, or degrade the utility of the environment for aesthetic and recreational purposes. The control of environmental pollution requires consideration of air, water, land and involves noise, solid waste management and management of radiant energy and radioactive materials, as well as other pollutants. Environmental pollution prevention shall be in accordance with NPDES requirements with no additional cost to the City.

1.19 MAINTENANCE AND PROTECTION OF TRAFFIC

A. The Contractor shall provide all necessary traffic control devices in order to redirect, protect, warn or maintain existing vehicular and pedestrian traffic during the course of construction.

a. Construction Phasing Requirements

i. Contractor shall arrange the schedule to close southbound and northbound traffic separately in phases to maintain minimum of 11’ travel lane for each direction at all times.

B. TRAFFIC CONTROL

a. The Contractor is required to submit a conceptual Traffic Control Plan at the Pre-Construction Conference. This preliminary plan should identify the phases of construction that the Contractor plans to proceed with and identify traffic flows during each phase. The Engineer will have ten (10) days to notify the Contractor of any comments. Once the conceptual plan for maintaining traffic has been approved, the Contractor will be required to submit a detailed plan showing each phase's Maintenance and Protection Plan prior tostarting construction of any phase.

b. The "Maintenance of Traffic" plan shall include pedestrian traffic as well as vehicular traffic. It shall be the responsibility of the Contractor for any necessary Construction, Pavement Marking and Signage or any Pedestrian Signalization and/or Signal Modification to accommodate an alternate safe walk route.

c. The Contractor, at all times, shall conduct the work in such a manner as to ensure the least obstruction to traffic as is practical. Convenience of the general public and of the residents adjacent to the work shall be provided for in a satisfactory manner, as determined by the Engineer.

d. Sidewalks, gutters, drains, fire hydrants and private drives shall, insofar as practical, be kept in condition for their intended uses. Fire hydrants on or adjacent to the work shall be kept accessible to fire apparatus at all times, and no material or obstruction shall be placed within twenty (20) feet of any such hydrant.

e. All existing stop and street name signs will be maintained as long as deemed necessary by the Engineer.

f. The Contractor shall furnish a sufficient number of protective devices to protect and divert the vehicular and pedestrian traffic from working areas closed to traffic, or to protect any new work. Failure to comply with this requirement will result in the Engineer shutting down

the work until the Contractor provides the necessary protection.

g. Any time traffic is diverted for a period of time that will exceed one- work day temporary pavement markings will be required. Existing pavement markings that conflict with the new work zone traffic pattern must be obliterated. Painting over existing pavement markings (black out)is not permitted.

1.20 MAINTENANCE AND PROTECTION OF EXISTING DRAINAGE SYSTEM

A. It shall be the responsibility of the Contractor to maintain positive drainage onthe surface and to ensure that the existing underground drainage system continues to function as intended during the construction. The contractor shall follow the plans to ensure that existing catch basins and manholes are being protected during the entire phase of construction.

1.21 APPLICATION FOR PAYMENT FOR STORED MATERIALS

A. Application for payment for stored materials may not be made by the Contractor.

1.22 SPECIAL CONDITIONS FOR CONSTRUCTION BY OTHER AGENCIES

A. It will be the Contractor's responsibility to coordinate construction schedules with other contractors so as to minimize disruptions, and inconveniences. The project site shall be safe at all times for construction workersand marina visitors.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

01010

SECTION 01025 - MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SUBMITTALS

A. See Section 01340, Submittal Procedures, and all other references to document submittals. Submittals shall include, but are not limited to:

a. Schedule of Values: Submit schedule on Owner's form.

b. Application for Payment.

c. Final Application for Payment.

d. Updated construction schedule.

1.2 SCHEDULE OF VALUES

A. Prepare a Schedule of Values for the Work.

B. Unit Price Work: Reflect unit price quantity and price breakdown from conformed Bid Form.

C. Lump Sum Work:

1. Reflect schedule of values format included in conformed Bid Form.

2. List Bonds and insurance premiums, mobilization, demobilization, facility startup, and contract closeout separately.

D. An unbalanced or front-end loaded schedule will not be acceptable.

E. Summation of the complete schedule of values representing all the Work shall equal the Contract Price.

1.3 APPLICATION FOR PAYMENT

A. Transmittal Summary Form: Attach one Summary Form with each detailed Application for Payment and include Request for Payment of Materials and Equipment on Hand as applicable. Execute certification by authorized officer of Contractor.

B. Use detailed Application for Payment Form provided by Owner.

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

D. Preparation:

a. Round values to nearest dollar.

b. List each Change Order and Written Amendment executed prior to date of submission as separate line item. Totals to equal those shown on the Transmittal Summary Form.

c. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form, a listing of materials on hand as applicable, and such supporting data as may be requested by Owner.

1.4 MEASUREMENT - GENERAL

A. Weighing, measuring, and metering devices used to measure quantity of materials for Work shall be suitable for purpose intended and conform to tolerances and Specifications as specified in National Institute of Standards and Technology, Handbook 44.

B. Whenever pay quantities of material are determined by weight, material shall be weighed on scales furnished by Contractor and certified accurate by state agency responsible. Weight or load slip shall be obtained from weigher and delivered to Construction Manager or Owner's representative at pointof delivery of material.

C. If material is shipped by rail, car weights will be accepted provided that actual weight of material only will be paid for and not minimum car weight used for assessing freight tariff and provided further that car weights will not be acceptable for material to be passed through mixing plants.

D. Vehicles used to haul material being paid for by weight shall be weighed empty daily and at such additional times as required by Construction Manager. Each vehicle shall bear a plainly legible identification mark.

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

F. Where measurement of quantities depends on elevation of existing ground, elevations obtained during construction will be compared with those shown on Drawings. Variations of 1 foot or less will be ignored, and profiles shown on Drawings will be used for determining quantities.

G. Units of measure shown on Bid Form shall be as follows, unless specified otherwise. All methods of measurement shall be approved by the Construction Manager.

Item	Method of Measurement
AC	Acre - Field Measure
CY	Cubic Yard - Field Measure within limits specified or shown, or measured in vehicle by volume, as specified
EA	Each - Field Count
GAL	Gallon - Field Measure
HR	Hour
LB	Pound(s) - Weight Measure by Scale
LF	Linear Foot - Field Measure
LS	Lump Sum - Unit is one; no measurement will be made
SF	Square Foot
SY	Square Yard
TON	Ton - Weight Measure by Scale (2,000 pounds)

1.5 PAYMENT

A. General:

a. Progress payments will be made monthly.

b. The date for Contractor's submission of monthly Application for Payment.

1.6 NONPAYMENT FOR REJECTED OR UNUSED PRODUCTS

A. Payment will not be made for following:

a. Loading, hauling, and disposing of rejected or unused material.

b. Quantities of material wasted or disposed of in manner not calledfor under Contract Documents.

c. Rejected loads of material, including material rejected after it has been placed by reason of failure of Contractor to conform to provisions of Contract Documents.

d. Material not unloaded from transporting vehicle.

e. Defective Work not accepted by Owner.

f. Material remaining on hand after completion of Work.

1.7 PAY ITEMS:

PAY ITEM	DESCRIPTION
GENERAL	
1. MOBILIZATION	See Section 01505, Mobilization, for payment limitations. All environmental compliance matters except for erosion control system shall be included in Mobilization. Mobilization includes, but is not limited to, bonds, videos, insurance, site cleanup, sanitary facilities, labor associated with permit acquisition, Contractor's staging area, project signs, project coordination, and demobilization. Any damage not confirmed by preconstruction video will be repaired at no additional cost to the City. Payment for mobilization will be made at a lump sum price named in the Bid Schedule. Payment for mobilization will be made in equal monthly amounts during the duration of the original contract time.
2. MAINTENANCE OF TRAFFIC (MOT)	See Section 01570, Traffic Regulations, and all other references to traffic control and maintenance, as well as parking control and maintenance in this document and any regulatory requirements for payment limitations. The lump sum price shall include compensation for required labor, materials, all necessary temporary pavement markings and signing for vehicles and pedestrians, temporary pavement, temporary business signage, professional fees, flagmen, coordination with police, and equipment necessary to provide traffic control for all traffic at all times in accordance with the plans and specifications. The costs shall include installation, maintenance, and removal of any and all required traffic control measures throughout the work area for all work. MOT permits and approvals from the applicable regulatory agencies, including but not limited to Broward County Highway Construction and Engineering Division and the City, are the responsibility of the Contractor. All MOT plans are to be sealed by a Florida Registered Engineer holding a current FDOT MOT certificate. MOT shall include both vehicular and pedestrian requirements. Temporary pavement markings and signage shall be provided wherever existing has been damaged, removed, or is no longer visible. The temporary shall be maintained until final markings are installed after asphalt resurfacing.
3. SITE PREPARATION/ CLEARING AND GRUBBING	See Section 02200, Site Preparation, for payment limitations. The lump sum price shall include all labor, materials, equipment and all other incidentals required for the removal and disposal of all soil, plantings, trees, stumps, roots, root pruning, and other such material necessary to prepare the area for the proposed construction and which are not included as part of another bid item. Payment for site preparation/clearing and grubbing will be made at a lump sum price named in the Bid Schedule.
4. EXCAVATION/	See Section 02316, Excavation, for payment limitations.

DEMOLITION	Measurement for excavation/demolition will include items shown in the Demolition Plan for the entirety of the project limits. This item will include all demolition, excavation for swale grading and sidewalk installation, and hauling away of waste as described in the Construction Documents. The lump sum price shall include all labor, equipment, and all other incidentals required for the removal and disposal of existing material as indicated on the Demolition Plan including, but not limited to, concrete, asphalt, limerock, base material, soil, structures, and other facilities necessary to prepare the area for the proposed construction and which are not included as part of another bid item.
5. SURFACE RESTORATION	See Section 02575, Surface Restoration for payment limitations. The lump sum price shall include all materials, labor, and equipment necessary to perform site restoration work including swale restoration, sidewalk, curbing, roadway, or driveways impacted by any construction activity adjacent to project site including but not limited to concrete and base removal, striping removal, clearing and grubbing, utility cover adjustments, sidewalk installation, signpost relocations, etc. The pay item includes, but is not limited to, new sod, utility cover adjustments, landscaping, trees, excavation, backfill, grading, irrigation, driveway aprons, sidewalks, fences, pipes, curbs, and any other work required for project completion and acceptance that is not included in the bid items specifically listed herein. Restoration other than or in addition to what is indicated by the plans, specifications, and defined herein will be considered incidental to the construction and the costs of this incidental restoration should be included in the cost of the project.
6. EROSION CONTROL/SWPPP	Measurement for payment shall include all equipment, materials, supplies, and labor necessary to prepare, obtain permit approval from the Florida Department of Environmental Protection, and implement the prevention, control, and abatement of erosion and water pollution. The lump sum price shall also include costs for adherence to the applicable NPDES permit and Stormwater Pollution Prevention Plan (SWPPP) regulations and requirements such as providing video documentation of the existing site conditions before start of work. Work shall include but not be limited to mulching, sand bagging, slope drains, sediment basins, berms, baled hay or straw, silt fences and staked turbidity barriers, construction fence with visual dust screen, rock bags, filter fabric, artificial coverings and other items relating to the construction/removal and routine maintenance, including mowing, or the prevention, control and abatement of erosion and water pollution plan.
SIDEWALKS, DRIVEWAYS, CURBING	
7. 6” Concrete Sidewalk	Measurement for sidewalk shall include all materials, labor, and equipment necessary to install the concrete sidewalk as shown on the plans. Price and payment shall be made at the contract unit prices and

	shall include installation of sidewalk, all associated excavation, management of excavated materials, and subbase as needed, backfill and compaction, testing, soil grading if required by adjacent grades to front and/or back of sidewalk or aprons, and ADA compliance for all sidewalk installations.
8. 6" Concrete Driveways, Reinforced	Measurement for driveways shall include all materials, labor, and equipment necessary to install the driveway(s), and reinforcement as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the driveway aprons, reinforcement, all associated excavation, management of excavated materials, new limerock and subbase as needed, backfill and compaction, testing, soil grading if required by adjacent grades to tie new to existing. ADA compliance shall be met where applicable and per plans.
9. Detectable Warning Surface	Measurement for detectable warning surfaces shall include all materials, labor, and equipment necessary to install the detectable warnings surfaces as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the detectable warning surface. ADA compliance shall be met where applicable and per plans.
10. Type 'D' curb	Measurement for type 'D' curb shall include all materials, labor, and equipment necessary to install the curb as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.
11. Type 'F' curb	Measurement for type 'F' curb shall include all materials, labor, and equipment necessary to install the curb as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.
12. 1' Retaining Wall	Measurement for retaining wall shall include all materials, labor, and equipment necessary to install the retaining wall and reinforcement as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the wall, reinforcement, all associated excavation, management of excavated materials, new limerock and subbase as needed, backfill and compaction, testing, soil grading if required.
13. Drop Curb	Measurement for drop curb shall include all materials, labor, and equipment necessary to install the curb as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.
14. Manhole Cover	Measurement for manhole cover shall include all materials, labor, and equipment necessary to install the cover as shown on the plans and to be set flushed with surface.

	Price and payment shall be made at the contract unit prices and shall include the installation of the cover per details and specifications provided on the plans.
15. Type I Closed Flume Inlet	Measurement for Type I closed flume inlet shall include all materials, labor, and equipment necessary to install the flume as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.
16. Sidewalk Bridge and Concrete Flume (Modified Type I Closed Flume)	Measurement for Type I closed flume inlet shall include all materials, labor, and equipment necessary to install the flume as shown on the plans. Price and payment shall be made at the contract unit prices and shall include the preparation of required trench and installation of the curb per details and specifications provided on the plans.
17. 1 ½" Asphalt Surface Type SP 9.5	Measurement for asphalt shall include all materials, labor, and equipment necessary to install the asphalt as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the asphalt per standards and specifications.
18. 8" Limerock Base	Measurement for limerock shall include all materials, labor, and equipment necessary to install the 8" of limerock as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the limerock, all associated excavation, management of excavated materials, backfill and compaction, testing, soil grading as required.
19. 12" Stabilized Subgrade	Measurement for stabilized subgrade shall include all materials, labor, and equipment necessary to install the stabilized subgrade as shown on the plans. Price and payment shall be made at the contract unit prices and shall include installation of the stabilized subgrade, all associated excavation, management of excavated materials, backfill and compaction, testing, and soil grading as required.
DRAINAGE	
20. 18" Reinforced Concrete Pipe	Measurement for payment for stormwater improvements shall include all materials, labor, and equipment to furnish and install a the reinforced concrete pipe (RCP) according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, dewatering, location and coordination of all existing utilities prior to construction, removal of existing components as needed, RCP piping, excavation and back fill, compaction, new fill, grading, and as-built

	drawings for a complete water service installation.
21. Exfiltration Trench	Measurement for payment for stormwater improvements shall include all materials, labor, and equipment to furnish and install the perforated reinforced concrete pipe (RCP) with exfiltration trench according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, dewatering, location and coordination of all existing utilities prior to construction, removal of existing components as needed, perforated RCP piping and exfiltration trench, excavation and back fill, compaction, new fill, grading, and as-built drawings for a complete water service installation.
22. Drainage Manhole	Measurement for payment for stormwater improvements shall include all materials, labor, and equipment to furnish and install the drainage manhole structure according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, dewatering, location and coordination of all existing utilities prior to construction, removal of existing components as needed, drainage manhole structure, excavation and back fill, compaction, new fill, grading, and as-built drawings for a complete water service installation.
23. Catch Basin	Measurement for payment for stormwater improvements shall include all materials, labor, and equipment to furnish and install the catch basin structure according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, dewatering, location and coordination of all existing utilities prior to construction, removal of existing components as needed, catch basin structure, excavation and back fill, compaction, new fill, grading, and as-built drawings for a complete water service installation.
MILLING AND RESURFACING	
24. Mill Asphalt (1” Min.)	Measurement for payment for milling shall include all materials, labor, and equipment associated with milling the existing asphalt throughout the project area as shown on the plans complete and accepted. Price and payment shall be made at the contract unit price per square yard of existing asphalt milled (minimum depth 1”).
25. Asphalt Overlay (1” Min.)	Measurement for payment for milling and resurfacing shall include all materials, labor, and equipment associated with milling the existing asphalt and installing the asphalt concrete overlay throughout the project area as shown on the plans complete and accepted.

	Price and payment shall be made at the contract unit price per square yard of asphalt and includes all costs associated with installing a final asphalt concrete overlay (as specified) upon completion of all project improvements. This asphalt concrete overlay bid item includes costs for asphalt thickness variations as needed to provide a smooth and continuous grade throughout the entire asphalt overlay area and to avoid areas of standing water.
SIGNING AND MARKING	
26. Single Post Sign, Relocate	Measurement for payment for post relocation(s) shall include all labor and equipment to relocate sign(s) as indicated on the plans. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
27. Thermoplastic, Standard, 4" Solid White	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
28. Thermoplastic, Standard, 24" Solid White	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
29. Thermoplastic, Standard, 12" Solid White	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having

	authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
30. Thermoplastic, Standard, 6” Solid White	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
31. Thermoplastic, Standard, 18” Solid Yellow	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
32. Thermoplastic, Standard, 6” Solid Yellow	Measurement for payment for signing and marking shall include all materials, labor, and equipment associated with installing thermoplastic pavement markings throughout the project area. All pavement markings must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, all labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. The unit price shall

	also include any temporary pavement markings prior to thermoplastic. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
33. Blue Reflective Pavement Marker (RPM)	Measurement for payment for retro-reflective pavement markers shall include all materials, labor, and equipment associated with installing associated retro-reflective pavement markers throughout the project area. All pavement markers must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
34. Yellow/Yellow Reflective Pavement Marker (RPM)	Measurement for payment for retro-reflective pavement markers shall include all materials, labor, and equipment associated with installing associated retro-reflective pavement markers throughout the project area. All pavement markers must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
35. White/Red Reflective Pavement Marker (RPM)	Measurement for payment for retro-reflective pavement markers shall include all materials, labor, and equipment associated with installing associated retro-reflective pavement markers throughout the project area. All pavement markers must comply with the jurisdiction having authority after completion of the overlay process as shown on the plans complete and accepted. Price and payment shall be made at the contract unit prices and shall include full compensation for all supervision, labor, equipment, and materials required to install all pavement markings in accordance with the plans and specifications. Costs associated with replacing existing signs or traffic control devices damaged as a result of construction will be the responsibility of the Contractor.
WATER	
36. 8”x1” Corporation Stop	Measurement for payment for installation of corporation stop shall include all materials, labor, and equipment to furnish and install connection according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, location and

	coordination of all existing utilities prior to construction, removal of existing components as needed, new water service connection, corporation stops, fittings, couplings, connection to existing water system, excavation and back fill, compaction, new fill, grading, safety, disinfection, pressure testing, and as-built drawings as required per City and approved plans.
37. 5/8" Meter Connection and PVB	Measurement for payment for meter connection and PVB shall include all materials, labor, and equipment to furnish and install a meter and PVB with accessories according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, location and coordination of all existing utilities prior to construction, removal of existing components as needed, new meter box, and water meter, pressure vacuum breaker assembly, fittings, couplings, excavation and back fill, compaction, new fill, grading, safety, disinfection, pressure testing, and as-built drawings as required per City and approved plans.
38. 1" HDPE Service Line	Measurement for payment for 1" HDPE service line shall include all materials, labor, and equipment to furnish and install a new 1-inch HDPE service line with accessories according to the unit prices for all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Price and payment shall be made at the contract unit prices and shall include all labor, equipment, material, location and coordination of all existing utilities prior to construction, removal of existing components as needed, new water service line installation, HDPE piping, fittings, couplings, connection to existing water system, excavation and back fill, compaction, new fill, grading, safety, disinfection, pressure testing, and as-built drawings as required per City and approved plans.
LANDSCAPE	
39. Tree Removal	Measurement for payment for tree removal shall include all materials, labor, and equipment necessary to complete work described in the approved tree disposition plans and details. This item shall include tree/palm removal. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
40. Tree Relocation	Measurement for payment for tree relocation shall include all materials, labor, and equipment necessary to complete work described in the tree disposition plans and details. This item shall include tree/palm relocation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
41. Tree Protection Fencing	Measurement for payment for tree protection fencing shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall

	include tree bracing canopy/crown pruning, root pruning, tree staking and maintenance during construction. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
42. Silver Buttonwood - 2" CAL. 12'-14' HT	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
43. Muskogee Crape Myrtle - 2.5" CAL. 14' HT x 6' SPR	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
44. Triple Trunk Solitaire Palm - 14'-16' OA	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
45. Relocated Sabal Palm	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
46. Foxtail Palm - 14' OA	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
47. Auntie Lou Ti Plant - 3'-4' HT	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the

	landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
48. Horizontal Coco Plum - 24" x 24"	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
49. Orange Bromeliad - 4' HT	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
50. Flax Lily - 12" x 12"	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
51. Green Island Ficus - 15" x 15"	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
52. Bird of Paradise - 4' HT	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.

53. Fakahatchee Grass - 24" x 24"	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
54. Coontie - 12" x 12"	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
55. Floratam St. Augustine Grass	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
56. Asiatic Jasmine - 8" HT	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
57. Bioswale Planting Mix	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
58. Gravel Mulch - 1"-3"	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed

	on the applicable drawings, all in accordance with the requirements of the Contract Documents.
59. Gravel Forebay - 3"-5"	Measurement for payment for landscape shall include all materials, labor, and equipment necessary to complete work described in the landscape plans and details. This item shall include tree staking, fertilizer, soil inoculant, soil amendments, groundcover, tree/palm plantings, mulch and watering / maintenance during construction for a complete landscape installation. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents.
IRRIGATION	
60. Irrigation	Measurement for payment for irrigation shall include all materials, labor and equipment necessary to furnish and install the irrigation system as described in the contract documents. Price and payment shall be made at the contract unit prices and shall cover all work to be performed on the applicable drawings, all in accordance with the requirements of the Contract Documents. Payment for furnishing and installing all irrigation related items shall constitute full compensation for furnishing, fabricating, transporting, and installing the pipe, fittings, controller, backflow devices, backflow enclosures, meter installation, irrigation heads, irrigation valves, appurtenances and all other items necessary and incidental to completion of the work, required excavation, horizontal directional drill, open trench cut, missile boring, dewatering and backfilling.
HARDSCAPE AND SITE FURNISHINGS	
61. Bench	Measurement for payment for site furnishings shall be per product details and specifications on plans and approved by City. Payment for furnishing and installation shall constitute full compensation for the completed installation of the item including but not limited to site prep, application of product, base materials, foundations, preparation of engineered shop drawings, fabrication, delivery and installation, modifications, and cleaning.
62. Waste Receptacle	Measurement for payment for hardscape and site furnishings shall include site furnishings, patterned textured pavement crosswalks, and concrete walls. Payment for furnishing and installing all hardscape items shall constitute full compensation for the completed installation of the item including but not limited to site prep, application of product, base materials, foundations, preparation of engineered shop drawings, fabrication, delivery and installation, modifications, cleaning, all required dewatering.
63. Bike Rack	Measurement for payment for hardscape and site furnishings shall include site furnishings, patterned textured pavement crosswalks, and concrete walls.

	Payment for furnishing and installing all hardscape items shall constitute full compensation for the completed installation of the item including but not limited to site prep, application of product, base materials, foundations, preparation of engineered shop drawings, fabrication, delivery and installation, modifications, cleaning, all required dewatering.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01031 – ALTERATION PROJECT PROCEDURES

PART 1 GENERAL

1.1 REQUIREMENTS

A. Coordinate work of trades and schedule elements of alterations and renovation work by procedure and methods to expedite completion of the work.

B. In addition to demolition and that specifically shown, cut, move or remove items necessary to provide access or to allow alterations and new work toproceed. Include such items as:

a. Repair or removal of hazardous or unsanitary conditions.

b. Removal of abandoned items and items serving no useful purpose, such as abandoned piping, conduit and wiring.

c. Removal of unsuitable or extraneous materials not marked for salvage, such as abandoned furnishings and equipment, and debris such as rotted wood, rusted metals and deteriorated concrete, shall be removed from the site expeditiously.

d. Cleaning of surfaces and removal of surface finished as needed to install new work and finishes.

e. Protection as required for existing trees to remain.

f. For purposes of all existing underground utilities work, coordinate as required by use of special telephone number shown on engineering drawings.

g. Site storage for all existing benches, signals, signs, light poles, fire hydrants, manhole covers and grates to be relocated.

C. Patch, repair and refinish existing items to remain, to the specified condition for each material, with a professional transition to adjacent new items ofconstruction.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.3 ALTERATIONS, CUTTING AND PROTECTION

A. Assign the work of moving, removal, cutting, patching and protection to trades qualified to perform the work in a manner to cause least damage to each type of work, and provide means of returning surfaces to appearance of new

work.

B. Perform cutting and removal work to remove minimum necessary, and in a manner to avoid damage to adjacent work.

a. Cut finish surfaces such as paving, masonry, tile, plaster or metals, by methods to terminate surfaces in a straight line at a natural point of division.

C. Perform cutting and patching as specified in Section 01045.

D. Protect existing finishes, equipment, and adjacent work which are scheduled to remain, from damage.

a. Protect existing and new work from weather and extremes of temperature.

PART 2 PRODUCTS

2.1 PRODUCTS FOR PATCHING, EXTENDING AND MATCHING

A. General Requirements that work be complete:

a. Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing work.

i. Generally Contract Documents will not define products or standards of working conduct present in existing construction;Contractor shall determine products in inspection and any necessary testing by use of the existing as a sample of comparison.

b. Presence of a product, finish, or type of construction, requires that patching, extending or matching shall be performed as necessary tomake work complete and consistent to existing identical standards of quality.

PART 3 EXECUTION

3.1 PERFORMANCE

A. Patch and extend existing work using skilled mechanics who are capable of matching existing quality. Quality of patched or extended work shall be not less than that specified for new work.

3.2 DAMAGED SURFACES

A. Patch and replace any portion of an existing finished surface with the exception of concrete curb or gutter which is found to be damaged, lifted, discolored, or shows other imperfections. Damaged curbing shall be replaced in

sections as directed by the Engineer.

a. Provide adequate support of substrate prior to patching the finish.

b. Refinish patched portions of painted or coated surfaces in a manner to produce uniform color and texture over entire surface.

c. When existing surface finish cannot be matched, refinish entire surface to nearest intersections.

3.3 TRANSITION FROM EXISTING TO NEW WORK

A. When new work abuts or is finished flush with existing work, make a smooth transition. Patched work shall match existing adjacent work in texture and appearance so that the patch of transition is invisible at a distance of five feet.

a. When finished surfaces are cut in such a way that a smooth transitionwith new work is not possible, terminate existing surface in a neat manneralong a straight line at a natural line of division, and provide trim appropriate to finished surface.

3.4 CLEANING

A. Perform periodic and final cleaning as specified in Section 01710.

a. Clean Owner-occupied areas daily.

b. Clean spillage, overspray, and heavy collection of dust in Owner occupied areas immediately.

B. At completion of work of each trade, clean area and make surfaces ready for work of successive trades.

C. At completion of alterations work in each area, provide final cleaning and return space to a condition suitable for use by Owner.

3.5 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work in this section. Payment for work shall be included in all other work.

END OF SECTION

SECTION 01040 - COORDINATION

PART 1 GENERAL

1.1 SUBMITTALS

A. Informational

a. Statement of Qualification (SOQ) for land surveyor or civil engineer.

b. Statement of Qualification (SOQ) for professional videographer.

B. Photographs

a. Color Prints

i. Submit two copies, accompanied by negatives or digital files, within 5 days of being taken.

b. Video Recordings

i. Submit two copies within 5 days of being taken.

1.2 UTILITY NOTIFICATION AND COORDINATION

A. Coordinate the Work with various utilities within Project limits. Notify applicable utilities prior to commencing Work.

B. Contact the City of Fort Lauderdale Public Services Department at 954-828-8000 for water and sewer utility locations.

C. Contact Sunshine State One Call at 1-800-432-4770 at least 2 business days prior to any excavation.

D. If damage occurs, or if conflicts or emergencies arise during Work, contact the appropriate utility.

a. Electricity Company: Florida Power and Light.
- Contact Person: Jamie Purnell (or police/fire – 911).
- Telephone: 386-586-6403

b. Telephone Company: AT&T Distribution
- Contact Person: Juana Curtis
- Telephone: 786-792-5464

c. Water and Sewer Department: Fort Lauderdale Public Services Department.
- Contact Person: Emergency Hotline.
- Telephone: 954-828-8000

d. Gas Company: TECO Peoples Gas.
- Contact Person: Cheyenne Thompson
- Telephone: 813-743-7164

e. Telecom: Comcast.
- Contact: Ricardo Davidson
- Telephone: 786-221-1322

f. Fiber Company: Florida Power and Light.
- Contact Person: Wayne Kramer
- Telephone: 813-743-7164

1.3 PROJECT MEETINGS

A. General

a. Contract: Schedule physical arrangements for meetings throughout progress of Work, prepare meeting agenda with City/Construction Manager and Contractor input and distribute with written notice of each meeting, preside at meetings, record minutes to include significant proceedings and decisions, and reproduce and distribute copies minutes after each meeting to participants and parties affected by meeting decisions.

b. Representatives of City/Construction Manager, Contractor and Subcontractors shall attend meetings as needed.

B. Preconstruction Conference

a. Contractor shall be prepared to discuss the following subjects, as a minimum:

i. Required schedules.

ii. Status of Bonds and insurance.

iii. Sequence of critical path work items.

iv. Project changes and clarification procedures.

v. Use of site, access, office and storage areas, security and temporary facilities.

vi. Major project delivery and priorities.

vii. Contractor's safety plan and representative.

viii. Progress payment procedures.

b. Attendees may include but not limited to:

i. City's representatives

ii. Contractor's office representative

iii. Contractor's resident superintendent

iv. Contractor's quality control representative

v. Subcontractor's representatives whom Contractor may desire or City may request to attend.

vi. Engineer's representatives.

vii. Others as appropriate.

c. Preliminary Schedules Acceptability Review Meeting: As required to review and finalize Preliminary Schedule.

C. Progress Meetings

a. Contactor will schedule regular progress meetings at site, conducted weekly to review Work progress, progress schedule, Shop Drawing and Sample submissions schedule, Application for Payment, contract modifications, and other matters needing discussion and resolution.

b. Attendees will include

i. City's representatives, as appropriate.

ii. Contractor, Subcontractors and Suppliers, as appropriate.

iii. Others as appropriate.

c. On a monthly basis, the will conduct a meeting to review work completed the previous month versus the Progress Schedule, work planned for upcoming month based on the Progress Schedule, the monthly Application for Payment, and any outstanding issues related to performance of the Work including pending contract modifications, requests for clarification, Shop Drawings, etc. All parties will attend the monthly meeting.

D. Pre-installation Meetings

a. When required in individual Specification sections or as necessary to coordinate the Work, convene at site prior to commencing Work of that section.

b. Require attendance of entities directly affecting, or affected by, Work of that section.

c. Notify City/Construction Manager 4 days in advance of meeting date.

d. Provide suggested agenda to City/Construction Manager to include reviewing conditions of installation, preparation and installation or application procedures, and coordination with related Work and work of others.

E. Other Meetings

a. In accordance with the Contract Documents and as may be required by the City and Engineer.

1.4 FACILITY OPERATIONS

A. Continuous operation of City's facilities is of critical importance. Schedule and conduct activities to enable existing facilities to operate continuously, unless otherwise specified.

B. Perform Work continuously during critical connections and changeovers, and as required to prevent interruption of City's operations.

C. When necessary, plan, design, and provide various temporary services, utilities, connections, temporary piping and heating, access, and similar items to maintain continuous operations of City's facilities.

D. Do not close lines, open or close valves, or take other action which would affect the operation of existing systems, except as specifically required by the Contract Documents and after authorization by City and Engineer. Such authorization will be considered within 48 hours after receipt of Contractor's written request.

E. Provide 7 days advance written request for approval of need to shut down a process or facility to City/Construction Manager.

F. Power outages will be considered upon 48 hours written request to City. Describe the reason, anticipated length of time, and areas affected by the outage. Provide temporary provisions for continuous power supply to critical facility components.

G. Do not proceed with Work affecting a facility's operation without obtaining City's advance approval of the need for and duration of such Work.

H. Relocation of Existing Facilities:

a. During construction, it is expected that minor relocations of Work will be necessary.

b. If Contractor determines that in order to expedite construction of new water and or sewer mains it would be necessary to temporarily remove and replace existing water services and/or sewer service connections, he will be responsible for the removal and replacement of such service connections at his own cost and effort. The City will not provide additional compensation for any costs associated with such effort. All labor and material costs associated with means and methods of construction will be compensated as part of the bid item(s) cost submitted by the Contractor. Additionally, the Contractor will have to coordinate and inform utility owner(s) and any City resident(s) impacted by such activities and must repair such utilities in a timely manner to minimize disruption of service.

c. Provide complete relocation of existing structures and Underground Facilities, including piping, utilities, equipment, structures, electrical conduit wiring, electrical duct bank, traffic loop detectors and other necessary items.

d. Use only new materials for relocated facility. Match materials of existing facility, unless otherwise shown or specified.

e. Perform relocations to minimize downtime of existing facilities.

f. Install new portions of existing facilities in their relocated position prior to removal of existing facilities, unless otherwise accepted by City.

1.5 BYPASS PUMPING

A. Where the Work includes connections or modifications to existing sanitary sewer systems, wastewater flows shall be controlled through the pipeline sections and pump stations where work is being performed. Under no circumstances, can portions of the system be removed from service for periods of time in excess of that approved by the City. The Contractor shall be responsible to assess conditions and capacities of the existing sewer lines and pump stations in order to implement an acceptable bypass plan at no additional cost to the City. Bypass pumping will be required for all sewers and pump station construction that would result in shutdown of existing facilities. The Contractor shall supply the necessary pumps, conduits, and other equipment to not only divert flow around the pump station, manhole, or pipe section in which work is to be performed, but also to transmit the flow in downstream sewer lines and/or pump stations without surcharge. The bypass systems shall be of sufficient capacity to handle existing flows plus additional flows that may occur during periods of high tide or rainfall. Emergency backup pumping capability must be available in addition to the primary bypass system. The Contractor will be responsible for furnishing the necessary labor, power, and supervision to set up and operate the pumping and bypass systems. When pumping is in operation,

all engines shall be equipped in a manner to keep the pump noise to a minimum and to comply with applicable noise ordinances.

B. Contractor shall be responsible for any damage to properties or buildings connected to the sewer system, and to the pipeline, which result from the flow control activities.

C. Contractor shall submit a bypass pumping plan for all proposed bypass pumping operations.

1.6 PHYSICAL CONDITIONS

A. Exercise reasonable care to verify locations of existing subsurface structures and underground facilities.

B. Thoroughly check immediate and adjacent areas subject to excavation by visual examination (and by electronic metal and pipe detection equipment, as necessary) for indications of subsurface structures and underground facilities.

C. Make exploratory excavations where existing underground facilities or structures may potentially conflict with proposed underground facilities or structures. Conduct exploratory excavations in presence of Engineer and sufficiently ahead of construction to avoid possible delays to Contractor's Work.

1.7 ADJACENT FACILITIES AND PROPERTIES

A. Examination

a. After Effective Date of the Agreement and before Work at site is started, Contractor, City/Construction Manager, and affected property owners and utility owners shall make a thorough examination of pre-existingconditions including existing buildings, structures, and other improvements in vicinity of Work, as applicable, which could be damaged by construction operations.

b. Periodic reexamination shall be jointly performed to include, but not limited to, cracks in structures, settlement, leakage, and similar conditions.

B. Documentation

a. Record and submit documentation of observations made on examination inspections in accordance with paragraphs Construction Photographs and Audio-Video Recordings.

b. Upon receipt, Engineer will review, sign, and return one record copy of documentation to Contractor to be kept on file in field office.

c. Such documentation shall be used as indisputable evidence in ascertaining whether and to what extent damage occurred as a result of Contractor's operations, and is for the protection of adjacent property owners, Contractor, and City.

1.8 CONSTRUCTION PHOTOGRAPHS

A. Photographically document all unique portions of the construction including tie- ins to existing pipelines or facilities, crossings of existing utilities, buried valve and piping intersections, and other work items that will not otherwise be visible after completion of construction.

B. Film or file handling and development shall be done by a commercial laboratory.

C. City and Engineer shall have the right to select the subject matter and vantage point from which photographs are to be taken.

D. Construction Progress Photos

a. Photographically demonstrate progress of construction, showing every aspect of site and adjacent properties as well as interior and exterior of new or impacted structures.

b. Monthly: Take 24 exposures using 35 mm color film or digital photographs of comparable quality, unless otherwise approved by the PCM.

E. Color Prints

a. Minimum Size: 3-inch by 5-inch.

b. Finish: Glossy.

c. Label Each Print:

i. Project Name.

ii. Date and time photo was taken.

iii. Photographer's name.

iv. Caption (maximum 30 characters).

v. Location and area designation.

vi. Schedule activity number, as appropriate.

d. Assemble in bound albums in clear plastic sleeves that facilitate viewing both front and back of each photograph.

e. Assemble negatives in their corresponding album in clear plastic sleeves made for the purpose or on recordable CD media organized by project segment.

1.9 AUDIO-VIDEO RECORDINGS

A. Prior to beginning Work on construction site or of a particular area of the Work, and again within 10 days following date of Substantial Completion, videograph construction site and property adjacent to construction site.

B. In the case of preconstruction recording, no Work shall begin in the area prior to City/Construction Manager's review and approval of content and quality of video for that area.

C. Particular emphasis shall be directed to physical condition of existing vegetation, structures, and pavements within pipeline alignment and areas adjacent to and within the right-of-way or easement, and on Contractor storage and staging areas.

D. City/Construction Manager and Engineer shall have right to select subject matter and vantage point from which videos are to be taken.

E. Videotaping shall be by a professional commercial videographer, experienced in shooting construction videos.

F. Video Format and Quality

a. Digital Video format, with sound.

b. Video

i. Produce bright, sharp, and clear images with accurate colors, free of distortion and other forms of picture imperfections.

ii. Electronically, and accurately display the month, day, year, and time of day of the recording.

c. Audio

i. Audio documentation shall be done clearly, precisely, and at a moderate pace.

ii. Indicate date, Project name, and a brief description of the location of taping, including

a. Facility name;

b. Street names or easements;

c. Addresses of private property; and

d. Direction of coverage, including engineering stationing, if applicable.

G. Documentation

a. Provide two copies to the City.

b. Digital storage device Label:

i. Device number (numbered sequentially, beginning with 001).

ii. Project Name.

iii. Name of street(s) or easement(s) included.

iv. Applicable location by engineering stationing.

v. Date and time of coverage.

c. Project Video Log: Maintain an ongoing log that incorporates above noted label information for Videos on Project.

H. The Following Shall be Included with the Video Documentation

a. Coverage is required within and adjacent to the rights-of-way, easements, storage, and staging areas where the work is being constructed.

b. Documentation of the conditions of the adjacent properties or any affected structures as a result of the impending construction.

c. Certification as to date work done and by whom.

d. All videos shall be keyed to the construction drawings, provided with an index and a written narrative.

I. Preconstruction and Post-Construction Videos Shall be Submitted as follows:

a. Preconstruction videos shall be presented to the City at the preconstruction conference.

b. Post-construction videos shall be submitted prior to final project closeout. This submittal is contingent to final payment.

J. Payment for the work in this Section will be included as part of the lump sum price for mobilization/demobilization.

1.10 REFERENCE POINTS, SURVEYS, AND RECORD DRAWINGS

A. Location and elevation of benchmarks are shown on Drawings.

B. Contractor's Responsibilities:

a. Provide all survey efforts required to layout the Work.

b. Check and establish exact location of existing facilities prior to construction of new facilities and any connections thereto.

c. In event of discrepancy in data or benchmarks, request clarification before proceeding with Work.

d. Retain a professional land surveyor or civil engineer registered in the State of Florida who shall perform or supervise all surveying necessary for construction staking and layout and obtaining record information for as-built and record drawing preparation.

e. Maintain complete accurate log of survey Work as it progresses as a Record Document. The Contractor is responsible for the quality controlof horizontal location and vertical elevations of the installed project.

f. On request of City/Construction Manager, submit documentation.

g. Provide competent employee(s), tools, stakes, and other equipment and materials as City/Construction Manager may require to:

i. Establish control points, lines, and easement boundaries.

ii. Check layout, survey, and measurement Work performed by others.

iii. Measure quantities for payment purposes.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 CUTTING, FITTING, AND PATCHING

A. Cut, fit, adjust, or patch Work and work of others, including excavation and backfill as required, to make Work complete.

B. Obtain prior written authorization of Engineer before commencing Work to cut or otherwise alter:

a. Structural or reinforcing steel, structural column or beam, elevated slab, trusses, or other structural member.

b. Weather - or moisture-resistant elements.

c. Efficiency, maintenance, or safety of element.

d. Work of others.

C. Refinish surfaces to provide an even finish.

a. Refinish continuous surfaces to nearest intersection.

b. Refinish entire assemblies.

c. Finish restored surfaces to such planes, shapes, and textures that no transition between existing work and Work is evident in finished surfaces.

i. Restore existing work, Underground Facilities, and surfaces that are to remain in completed Work including concrete-embedded piping, conduit, and other utilities as specified and as shown.

ii. Make restorations with new materials and appropriate methods as specified for new Work of similar nature; if not specified, use recommended practice of manufacturer or appropriate trade association.

END OF SECTION

SECTION 01045 – CUTTING AND PATCHING

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Contractor shall be responsible for all cutting, fitting and patching, including attendant excavation and backfill, required to complete the work or to:

a. Make its several parts fit together properly.

b. Uncover portions of the work to provide for installation of ill-timed work.

c. Remove and replace defective work.

d. Remove and replace work not conforming to requirements of Contract Documents.

e. Remove samples of installed work as specified for testing.

f. Provide routine penetrations of nonstructural surfaces for installation of piping and electrical conduit.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.3 SUBMITTALS

A. Submit a written request to Engineer well in advance of executing anycutting or alteration, which affects:

a. Work of the Owner or any separate Contractor.

b. Structural value of integrity of any element of the project.

c. Integrity of effectiveness of weather-exposed or moisture-resistant elements or systems.

d. Efficiency, operational life, maintenance or safety of operational elements.

e. Visual qualities of sight-exposed elements.

B. Request shall include:

a. Identification of the project.

b. Description of the affected work.

c. The necessity for cutting, alteration, or excavation.

d. Effect on work of Owner or any separate Contractor, or onstructural or weatherproof integrity of project.

e. Description of proposed work

i. Scope of cutting, patching, alteration, or excavation.

ii. Trades who will execute the work.

iii. Products proposed to be used.

iv. Extent of refinishing to be done.

f. Alternatives to cutting and patching.

g. Cost proposal, when applicable.

h. Written permission of any separate Contractor whose work will be affected.

C. Should conditions of work or the schedule indicate a change of products from original installation, Contractor shall submit request for substitution as specified in Section 01600, paragraph 1.08.

D. Submit written notice to Engineer designating the date and time the work will be uncovered.

PART 2 PRODUCTS

2.1 MATERIALS

A. Comply with specifications and standards for each specific product involved.

PART 3 EXECUTION

3.1 INSPECTION

A. Inspect existing conditions of project, including elements subject to damage or to movement during cutting and patching.

B. After uncovering the work, inspect conditions affecting installation of products, or performance of work.

C. Report unsatisfactory or questionable conditions affecting installation of products, or performance of work.

3.2 PREPARATION

A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of work.

B. Provide devices and methods to protect other portions of project from damage.

C. Provide protection from elements for that portion of the project, which may be exposed by cutting and patching, work, and maintain excavations free fromwater.

3.3 PERFORMANCE

A. Execute cutting and demolition by methods, which will prevent damage to other work, and will provide proper surfaces to receive installation of repairs.

B. Execute excavating and backfilling by methods, which will prevent settlement or damage to other work.

C. Employ original Installer or Fabricator to perform cutting and patching for:

a. Weather-exposed or moisture-resistant elements.

b. Sight-exposed finished surfaces.

D. Execute fitting and adjustment of products to provide a finished installation to comply with specified product, functions, tolerances and finishes.

E. Restore work which has been cut or removed; install new products to provide completed work in accordance with requirements of Contract Documents.

F. Fit work airtight to pipes, sleeves, ducts, conduit and other penetrations through surfaces.

G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:

a. For continuous surfaces, refinish to nearest intersection.

b. For an assembly, refinish entire unit.

3.4 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section, it shall be included in the unit price bid of any item requiring cuttingand patching, including pavement restoration.

END OF SECTION

SECTION 01050 – PROJECT MANAGEMENT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

a. Coordination Drawings.

b. Special Project Procedures

c. Administrative and supervisory personnel.

d. Project meetings.

e. Requests for Information (RFIs).

B. Related Sections include the following:

a. Section 01200, “Project Meetings”

b. Section 01311, "Construction Progress Documentation"

c. Section 01340, "Submittal Procedures"

d. Section 01780, "Contract Closeout "

1.3 DEFINITIONS

A. RFI: Request from Contractor seeking interpretation or clarification of the Contract Documents.

1.4 COORDINATION

A. Coordination. Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections that depend on each other for proper installation, connection, and operation.

a. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation

of other components, before or after its own installation.

b. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.

c. Make adequate provisions to accommodate items scheduled for later installation.

d. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.

B. Memoranda.

a. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

i. Prepare similar memoranda for City and separate contractors if coordination of their Work is required.

C. Administrative Procedures

a. Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

i. Preparation of Contractor's Construction Schedule.

ii. Preparation of the Schedule of Values.

iii. Installation and removal of temporary facilities and controls.

iv. Delivery and processing of submittals.

v. Progress meetings.

vi. Project closeout activities.

1.5 SUBMITTALS

A. Key Personnel Names

a. Within 5 days of notice to proceed, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site including:

i. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers.

ii. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1.6 SPECIAL PROJECT PROCEDURES

A. Discrepancies, Errors

a. Should discrepancies or errors appear in the drawings or specifications concerning materials, workmanship, or quantity of work to be performed, the Contractor will be required to immediately notify theCity before proceeding with the work.

b. If the Contractor fails to notify the City and proceeds with the work, Contractor will be required to correct the errors at his/her own expense. In the event of a conflict between the drawings and specifications, the City will decide on the way to perform the work or supply the materials.

B. Dimensions and Measurements

a. The figured dimensions on the drawings or notes including dimensions shall be used for construction instead of measurements of the drawings by scale. No scale measurements shall be used as a dimension for construction.

b. Dimensions on all drawings as well as the detail drawings themselves are subject in every case to measurements of adjacent or previously completed work. All such measurements necessary shall be taken before undertaking any work dependent upon such data.

c. Field verification of dimensions on plans is mandatory since actual locations, distances, and levels will be governed by actual field conditions.

C. Discrepancies or Inconsistencies:

a. Should any discrepancy or inconsistency appear between larger and smaller scale drawings in any of the divisions of the specifications or in any of the contract documents, such discrepancy shall be immediately submitted to the City for correction before proceeding with the work in question. In no case shall the Contractor make any alterations, erasures, changes or modifications in the drawings or specifications.

i. Should it appear that any of the work as specified or shown by the drawings is not sufficiently detailed or explained, the Contractor shall apply to the City for such further details or

information as may be necessary for full understanding of the work in question.

ii. The data set forth in these specifications and indicated on the drawings are as accurate as can be obtained, but their extreme accuracy is not guaranteed. Final application thereto shall be determined on the job as conditions may demand and subject to the approval of the City.

D. Plans and Specifications Acknowledgment by Subcontractors and Suppliers

a. All Subcontractors and Suppliers must submit, through the General Contractor to the City's Engineer, a statement on their individual letterhead stationery, signed and sealed with their corporate seal, or a notarized statement on their letterhead stationery in the absence of a corporate seal, that the individual Subcontractor or Supplier:

i. Has received or reviewed a FULL set of approved plans and specifications for the project,

ii. Is aware that items concerning their particular trade may be shown and/or detailed in other trades or sections of the plans and specifications, and

iii. Will comply with said plans, specifications and all applicable codes and permit requirements.

E. In the event a Subcontractor or Supplier notes a mistake or details appear incomplete, or if there are questions or concerns with the plans andspecifications, the Subcontractor or Supplier will immediately notify the General Contractor. No work will proceed until such conflicts or questions are resolved in writing.

F. The Subcontractor will not be permitted to start work, nor will any Shop drawings/submittals be accepted for review from a supplier until this letter of acknowledgment is received and approved by the General Contractor and City's Engineer. Also, the City will not process any pay request for the work of any Subcontractor or Supplier whose acknowledgment letter is not on file with the City.

1.7 REQUESTS FOR INTERPRETATION (RFIs)

A. Procedure

a. Immediately on discovery of the need for interpretation of the Contract Documents, and if not possible to request interpretation at Project meeting, prepare and submit an RFI in the form specified.

i. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.

ii. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI

a. Include a detailed, legible description of item needing interpretation and the following:

i. City Project Number

ii. City Project Name.

iii. Date.

iv. Name of Contractor.

v. RFI number, numbered sequentially.

vi. Specification Section number and title and related paragraphs, as appropriate.

vii. Drawing number and detail references, as appropriate.

viii. Field dimensions and conditions, as appropriate.

ix. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.

x. Contractor's signature.

xi. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.

a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.

xii. Identify each page of attachments with the RFI number and sequential page number.

C. Software-Generated RFIs

a. Software-generated form with substantially the same content as indicated above.

i. Word Template is available upon request from the City's Engineer's Office.

ii. Attachments shall be electronic files in Adobe Acrobat PDF format.

D. Engineer's Action. Engineer will review each RFI, determine action required, and return it. Allow seven working days for Engineer's response for each RFI. RFIs received after 1:00 p.m. will be considered as received the following working day.

a. The following RFIs will be returned without action:

i. Requests for approval of submittals.

ii. Requests for approval of substitutions.

iii. Requests for coordination information already indicated in the Contract Documents.

iv. Requests for adjustments in the Contract Time or the Contract Sum.

v. Requests for interpretation of Engineer's actions on submittals.

vi. Incomplete RFIs or RFIs with numerous errors.

b. Engineer's action may include a request for additional information, in which case Engineer's time for response will start again.

c. Engineer's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 01 Section "Contract Modification Procedures."

i. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer in writing within 10 days of receipt of the RFI response.

E. On receipt of Engineer's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Engineer within seven days if Contractor disagrees with response.

F. RFI Log.

a. Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log bi-weekly. Include the following:

i. Project name.

ii. Name and address of Contractor.

iii. RFI number including RFIs that were dropped and not submitted.

iv. RFI description.

v. Date the RFI was submitted.

vi. Date Engineer's response was received.

vii. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01060 – REGULATORY REQUIREMENTS & PERMITS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Contractor shall comply with all building codes appropriate to the project, including those of:

a. National Electric Code (Latest Revision)

b. Florida Building Code (Latest Revision)

B. Contractor shall comply with these codes, laws, regulations, rules, directives of all agencies, boards, districts, and governmental bodies having jurisdiction.

C. Contractor shall obtain and pay the cost of all building permits, fees, tie-in or connection charges associated with the project.

D. The Contractor shall obtain construction permits from Broward CountyPlanning and Environmental Regulation Division license(s), Fort Lauderdale Building Department, and file a NOI with FDEP for NPDES compliance. Fort Lauderdale Building Permit will be available for pickup by Contractor once Notice to Proceed has been granted.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.3 MEASUREMENT AND PAYMENT

A. Contractor shall be reimbursed for permit fees as described in Section 01025.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01070 – ABBREVIATIONS OF INSTITUTIONS

PART 1 GENERAL

1.1 GENERAL

A. Wherever in these Specifications references are made to the standards, specifications, or other published data of the various international, national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of these Specifications, the following acronyms or abbreviations, which may appear in these Specifications, shall have the meanings indicated herein.

1.2 ABBREVIATIONS

AAMA	Architectural Aluminum Manufacturer's Association
AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ACI	American Concrete Institute
AFBMA	Anti-Friction Bearing Manufacturer's Association, Inc.
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHAM	Association of Home Appliance Manufacturers
AI	The Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMCA	Air Moving and Conditioning Association
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
API	American Petroleum Institute
APWA	American Public Works Association
ASA	American Standards Association
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASLE	American Society of Lubricating Engineers
ASME	American Society of Mechanical Engineers
ASQC	American Society for Quality Control
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association

BBC	Basic Building Code, Building Officials & Code Administrators International
BCPERD	Broward County Planning and Environmental Regulation Division
BCHCED	Broward County Highway Construction and Engineering Division
BCHD	Broward County Health Department
BCTED	Broward County Traffic Engineering Division
BCWRMD	Broward County Water Resource Management Division
BCWWS	Broward County Water & Wastewater Services Division
BHMA	Builders Hardware Manufacturer's Association
CBM	Certified Ballast Manufacturers
CEMA	Conveyors Equipment Manufacturer's Association
CGA	Compressed Gas Association
CLFMI	Chain Link Fence Manufacturer's Institute
CMA	Concrete Masonry Association
CRSI	Concrete Reinforcing Steel Institute
DIPRA	Ductile Iron Pipe Research Association
EIA	Electronic Industries Association
ETL	Electrical Test Laboratories
EPA	Environmental Protection Agency
FBC	Florida Building Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FM	Factory Mutual System
FPL	Florida Power & Light
FS	Federal Specifications
HI	Hydraulics Institute
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IME	Institute of Makers of Explosives
IP	Institute of Petroleum (London)
IPC	Institute of Printed Circuits
IPCEA	Insulated Power Cable Engineers Association
ISA	Instrument Society of America
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
MBMA	Metal Building Manufacturer's Association
MPTA	Mechanical Power Transmission Association
MSS	Manufacturers Standardization Society
MTI	Marine Testing Institute
NAAMM	National Association of Architectural Metal Manufacturer's
NACE	National Association of Corrosion Engineers
NBS	National Bureau of Standards
NCCLS	National Committee for Clinical Laboratory Standards
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NLGI	National Lubricating Grease Institute

NMA	National Microfilm Association
NSF	National Sanitation Foundation
NWMA	National Woodwork Manufacturers Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PPI	Plastics Pipe Institute
RCRA	Resource Conservation and Recovery Act
RIS	Redwood Inspection Service
RVIA	Recreational Vehicle Industry Association
RWMA	Resistance Welder Manufacturer's Association
SAE	Society of Automotive Engineers
SAMA	Scientific Apparatus Makers Association
SB	Southern Bell
SFWMD	South Florida Water Management District
SMA	Screen Manufacturers Association
SMACCNA	Sheet Metal and Air Conditioning Contractors National Association
SPI	Society of the Plastics Industry, Inc.
SPIB	Southern Pine Inspection Bureau
SPR	Simplified Practice Recommendation
SSA	Swedish Standards Association
SSBC	Southern Standard Building Code, Southern Building Code Congress
SSPC	Steel Structures Painting Council
SSPWC	Standard Specifications for Public Works Construction
TAPPI	Technical Association of the Pulp and Paper Industry
TFI	The Fertilizer Institute
UL	Underwriters Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WCRSI	Western Concrete Reinforcing Steel Institute
WEF	Water Environment Federation
WIC	Woodwork Institute of California
WRI	Wire Reinforcement Institute, Inc.
WWPA	Western Wood Products Association

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01090 – REFERENCE STANDARDS

PART 1 GENERAL

1.1 GENERAL

A. Titles of Sections and Paragraphs

a. Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.

B. Applicable Publications

a. Whenever in these Specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date that the Work is advertised for bids, shall apply; except to the extent that said standardsor requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.

C. Specialists, Assignments

a. In certain instances, specification text requires (or implies) that specific work is to be assigned to specialists or expert entities, who must be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the Contractor hasno choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the WORK; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for the indicated construction processes or operations. Nevertheless, the final responsibility for fulfillment of the entire set of contract requirements remains with the Contractor.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Without limiting the generality of other requirements of the Specifications, all work specified herein shall conform to or exceed the requirements of applicable codes and the applicable requirements of the following documents.

B. References herein to "Building Code" shall mean "Florida Building Code". References to "Mechanical Code" or "Uniform Mechanical Code," "PlumbingCode" or "Uniform Plumbing Code," "Fire Code" or "Uniform Fire Code," shall

mean Uniform Mechanical Code, Uniform Plumbing Code and Uniform Fire Code of the International Conference of the Building Officials (ICBO). "Electric Code" or "National Electric Code (NEC)" shall mean the National Electric Code of the National Fire Protection Association (NFPA). The latest edition of the codes as approved by the Municipal Code and used by the local agency as of the date that the Work is advertised for bids, as adopted by the agency having jurisdiction, shall apply to the Work herein, including all addenda, modifications, amendments, or other lawful changes thereto.

C. In case of conflict between codes, reference standards, drawings and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought to the attention of the Engineer for clarification and directions prior to ordering or providing any materials or furnishing labor. The Contractor shall bid for the most stringent requirements.

D. The Contractor shall construct the Work specified herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards, and specifications listed herein.

E. References herein to "OSHA Regulations for Construction" shall mean Title 29, Part 1926, Construction Safety and Health Regulations, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

F. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

1.3 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format. The Specifications are organized into Divisions and Sections using the CSI/CSC's "MasterFormat" numbering system.

a. Section Identification

i. The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.

b. Division 01

i. Sections in Division 01 govern the execution of the Work of all Sections in the Specifications.

B. Specification Content

a. The Specifications use certain conventions for the style of language

and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

i. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

ii. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Textfor clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.4 REGULATIONS RELATED TO HAZARDOUS MATERIALS

A. The Contractor is responsible that all work included in the Contract Documents, regardless if shown or not, shall comply with all EPA, OSHA, RCRA, NFPA, and any other Federal, State, and Local Regulations governing the storage and conveyance of hazardous materials, including petroleum products.

B. Where no specific regulations exist, all chemical, hazardous, and petroleumproduct piping and storage in underground locations must be installed with double containment piping and tanks, or in separate concrete trenches andvaults, or with an approved lining which cannot be penetrated by the chemicals, unless waived in writing by the Owner.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01152 – APPLICATIONS FOR PAYMENT

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

B. Related Sections include the following:

a. Division 01 Section "Alteration Project Procedures" for administrative procedures for handling changes to the Contract.

b. Division 01 Section "Measurement and Payment" for administrative requirements governing use of unit prices.

c. Division 01 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.

1.3 DEFINITIONS

A. Schedule of Values. A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

a. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.

b. Round amounts to nearest whole dollar; total shall equal the Contract Sum.

c. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.

i. Differentiate between items stored on-site and items stored off- site. For items stored off-site include evidence of insurance or bonded warehousing.

d. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.

e. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.

f. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.

g. Temporary facilities and other major cost items that are not direct cost of actual work-in-place may be shown either as separate line items in the Schedule of Values or distributed as General Condition's expense, at Contractor's option.

h. Schedule Updating. Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

A. The General Contractor must meet with the City Representative on or about the 25th of each month. The City Representative will go over the pay items and agree on the quantities and the dollar amounts of the work completed during the month. A copy of the agreed amounts will be signed by the parties and a copywill be left with each representative.

B. The General Contractor will make up a partial pay request using the City- supplied forms and submit the request to the City Representative before the first of the upcoming month.

C. Each pay request must be accompanied by an update construction schedule.

D. Each pay request must be accompanied by a partial release of lien by the General Contractor and by all Subcontractors, suppliers, and for all labor, as outlined below.

a. Starting with the second (2nd) pay request and for each and every pay request thereafter, the General Contractor shall submit partial release of liens from all Subcontractors, suppliers, and laborers covering the preceding month's request (SEE FOLLOWING EXAMPLE).

b. EXAMPLE:

i. In the first (1st) pay request, payment is requested by General Contractor for the asbestos contractor and the electrician. The General Contractor must attach his partial release of lien.

ii. For the second (2nd) pay request, the General Contractor must attach his partial release of lien from the asbestos contractor and the electrician for the amounts billed in the 1st pay request; i.e., the General Contractor will be running one (1) month behind with the releases from the Subcontractors, suppliers, etc., until the final pay request.

E. For each payment application requesting payment for undergrounding allowance for undergrounding work for overhead utilities, written authorization of payment from each utility being requested must be received with payment application.

F. For the final pay request, the General Contractor will be required to submit FINAL release of liens for ALL Subcontractors, suppliers, etc., and for ALL labor BEFORE FINAL PAYMENT WILL BE MADE.

G. No partial payments, after the first payment, will be made until all partial release of liens are submitted for the preceding month's billing, as described

H. Each Application for Payment shall be consistent with previous applications and payments as certified by and paid for by City.

I. Payment Application Forms: Use City Form "PERIODIC ESTIMATE FOR PARTIAL PAYMENT" as form for Applications for Payment.

a. Application Preparation. Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. City will return incomplete applications without action.

b. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.

c. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

J. Release of Lien. With each Application for Payment, submit release of lien from every entity who is lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.

a. Submit partial release of lien on each item for amount requested in previous application, after deduction for retainage, on each item.

b. When an application shows completion of an item, submit final release of lien.

c. City reserves the right to designate which entities involved in the Work must submit release of lien forms.

K. Initial Application for Payment. Administrative actions and submittals that must

precede or coincide with submittal of first Application for Payment include the following:

a. List of subcontractors.

b. Schedule of Values.

c. Contractor's Construction Schedule (preliminary if not final).

d. Products list.

e. Submittals Schedule (preliminary if not final).

f. List of Contractor's staff assignments.

g. Copies of building permits.

h. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.

i. Initial progress report.

j. Report of preconstruction conference.

L. Final Payment Application. Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:

a. Evidence of completion of Project closeout requirements.

b. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.

c. Updated final statement, accounting for final changes to the Contract Sum.

d. Evidence that claims have been settled.

e. Final liquidated damages settlement statement.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION
01152

SECTION 01200 – PROJECT MEETINGS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Contractor shall schedule and administer a preconstruction meeting, progress meetings at a minimum of every two weeks on a day established by the City's Representative and specially called meetings throughout progress of the work.

a. Prepare agenda for meetings.

b. Distribute written notice of each meeting five (5) days in advance of meeting date.

c. Make physical arrangements for meetings.

d. Preside at meetings.

e. Record the minutes; include significant proceedings and decisions.

f. Reproduce and distribute copies of minutes within three days after each meeting.

i. To participants in the meeting.

ii. To parties affected by decisions made at the meeting.

iii. Furnish three copies of minutes to City’s Representative.

B. Representative of Contractor, subcontractor and suppliers attending meetings shall be qualified and authorized to act on behalf of the entity each represents.

C. Engineer shall attend all meetings.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.3 PRE-CONSTRUCTION MEETING

A. Schedule after date of Notice to Proceed.

B. Location. A central site, convenient for all parties, designated by City's Representative.

C. Attendance:

a. The Contractor and its superintendent.

b. City's Engineer and City's Engineer's Professional Consultants.

c. Resident Project Representative.

d. Representatives of the Owner.

e. Major subcontractors.

f. Major Suppliers.

g. Governmental representatives as appropriate.

h. Others as requested by Contractor, City or City's Engineer.

D. Suggested Agenda:

a. Distribution and discussion of:

i. List of major subcontractors and suppliers.

ii. Projected Construction Schedules.

iii. Shop drawings and other submittals.

iv. Traffic maintenance plan.

v. Community Public Relations.

b. Critical work sequencing.

c. Procurement of major equipment and materials requiring a long lead time.

d. Project Coordination

i. Designation of responsible personnel.

e. Procedures and processing of:

i. Field decisions.

ii. Proposal requests.

iii. Submittals.

iv. Change Orders.

v. Applications for Payment

f. Adequacy of distribution of Contract Documents.

g. Procedures for maintaining Record Documents.

h. Use of premises:

i. Office, work and storage areas.

ii. City's requirements.

i. Construction facilities, controls and construction aids.

j. Temporary utilities.

k. Safety procedures.

l. Security procedures.

m. Housekeeping procedures.

1.4 PROGRESS MEETINGS

A. Contractor shall schedule regular biweekly meetings on a day established by the City's Representative as required.

B. Hold called meetings as required by progress of the work.

C. Location of the meetings. Project field office of City's Representative.

D. Attendance:

a. City's Representative and City's Professional Consultants as needed.

b. Engineer.

c. Subcontractors as active on the site.

d. Suppliers as appropriate to the agenda.

e. Governmental representatives as appropriate.

f. Others, as requested by Contractor, City or City's Engineer.

E. Suggested Agenda:

a. Review, approval of minutes of previous meeting.

b. Review of work progress since previous meeting.

c. Field observations, problems, and conflicts.

d. Problems, which impeded Construction Schedule.

e. Review of off-site fabrication, delivery schedules.

f. Corrective measures and procedures to regain projected schedule.

g. Revisions to Construction Schedule.

h. Progress, schedule, during succeeding work period.

i. Coordination of schedules.

j. Community Public Relations.

k. Review submittal schedules; expedite as required.

l. Maintenance of quality standards.

m. Pending changes and substitutions.

n. Review proposed changes for:

   i. Effect on Construction Schedule and on completion date.

   ii. Effect on other contracts of the Project.

o. Other business.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01311 – CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

a. Preliminary Construction Schedule.

b. Contractor's Construction Schedule.

c. Submittals Schedule.

d. Daily construction reports.

e. Material location reports.

f. Field condition reports.

g. Special reports.

B. Related Sections include the following:

a. Section 01152 – Applications for Payment

b. Section 01050 – Project Management

c. Section 01340 – Submittal Procedures

d. Section 01311 – Construction Photographs

e. Section 01400 – Quality Control

1.3 DEFINITIONS

A. Activity. A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

a. Critical activities are activities on the critical path. They must start and

finish on the planned early start and finish times.

b. Predecessor Activity. An activity that precedes another activity in the network.

c. Successor Activity. An activity that follows another activity in the network.

B. CPM. Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

C. Critical Path. The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event. The starting or ending point of an activity.

E. Float. The measure of leeway in starting and completing an activity.

a. Float time is not for the exclusive use or benefit of either City or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

b. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.

c. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

F. Fragnet. A partial or fragmentary network that breaks down activities into smaller activities for greater detail.

G. Milestone. A key or critical point in time for reference or measurement.

H. Network Diagram. A graphic diagram of a network schedule, showing activities and activity relationships.

I. Resource Loading. The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 SUBMITTALS

A. Submittals Schedule. Submit three copies of schedule. Arrange the following information in a tabular format:

a. Scheduled date for first submittal.

b. Specification Section number and title.

c. Submittal category (action or informational).

d. Name of subcontractor.

e. Description of the Work covered.

f. Scheduled date for Engineer's final release or approval.

B. Preliminary Construction Schedule. Submit three opaque copies.

a. Approval of cost-loaded preliminary construction schedule will not constitute approval of Schedule of Values for cost-loaded activities.

C. Preliminary Network Diagram. Submit three opaque copies, large enough toshow entire network for entire construction period. Show logic ties for activities.

D. Contractor's Construction Schedule. Submit three opaque copies of initial schedule, large enough to show entire schedule for entire construction period.

E. CPM Reports. Concurrent with CPM schedule, submit three copies of each of the following computer-generated reports. Format for each activity in reportss ha l l contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

a. Activity Report. List of all activities sorted by activity number and then early start date, or actual start date if known.

b. Logic Report. List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.

c. Total Float Report. List of all activities sorted in ascending order of total float.

F. Daily Construction Reports. Submit two copies at monthly intervals.

G. Material Location Reports. Submit two copies at monthly intervals.

H. Field Condition Reports. Submit two copies at time of discovery of differing conditions.

I. Special Reports. Submit two copies at time of unusual event.

1.5 COORDINATION

A. Coordinate Contractor's Construction Schedule with the Schedule of Values,list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

a. Secure time commitments for performing critical elements of the Work from parties involved.

b. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 PRODUCTS

2.1 SUBMITTALS SCHEDULE

A. Preparation. Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmittal, ordering, manufacturing, fabrication, and delivery when establishing dates.

a. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.

b. Initial Submittal. Submit concurrently with preliminary bar-chart schedule. Include submittals required during the first 20 days of construction. List those required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.

i. At Contractor's option, show submittals on the Preliminary Construction Schedule, instead of tabulating them separately.

c. Final Submittal. Submit concurrently with the first complete submittal of Contractor's Construction Schedule.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Procedures. Comply with procedures contained in AGC's "Construction Planning & Scheduling."

B. Time Frame. Extend schedule from date established for the Notice to Proceed to date of Final Completion.

C. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

a. Activities. Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following: The schedule shall clearly indicate the critical path and all activities associated with it. The dependencies shall be clearly delineated.

b. All activities with a time duration exceeding five (5) days shall be shown as separate items.

c. Include procurement process activities for the following long lead items and major items as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

d. Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.

e. Where materials require more than one (1) week fabrication or order time, this order/fabrication time shall be shown.

D. Constraints. Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

a. City-Furnished Products. Include a separate activity for each product. Include delivery date indicated in Division 01 Section "Summary." Delivery dates indicated stipulate the earliest possible delivery date.

b. Work Restrictions. Show the effect of the following items on the schedule:

i. Use of premises restrictions.

ii. Environmental control.

c. Work Stages. Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

i. Subcontract awards.

ii. Submittals.

iii. Purchases.

iv. Fabrication.

v. Sample testing.

vi. Deliveries.

vii. Installation.

viii. Tests and inspections.

ix. Adjusting.

x. Curing.

E. Milestones. Include milestones indicated in the Contract Documents in

schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, Final Completion, and Certificate of Occupancy.

F. Contract Modifications. For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.

G. Computer Software. Prepare schedules using a program that has been developed specifically to manage construction schedules.

a. Microsoft Project 2000 or Oracle Primavera .

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule. Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 10 days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project.

B. Preparation. Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

2.4 REPORTS

A. Daily Construction Reports. Prepare a daily construction report recording the following information concerning events at Project site:

a. List of subcontractors at Project site.

b. List of separate contractors at Project site.

c. Approximate count of personnel at Project site.

d. Equipment at Project site.

e. Material deliveries.

f. High and low temperatures and general weather conditions.

g. Accidents.

h. Meetings and significant decisions.

i. Unusual events (refer to special reports).

j. Stoppages, delays, shortages, and losses.

k. Emergency procedures.

l. Orders and requests of authorities having jurisdiction.

m. Change Orders received and implemented.

n. Construction Change Directives received and implemented.

o. Services connected and disconnected.

p. Equipment or system tests and startups.

q. Partial Completions and occupancies.

r. Substantial Completions authorized.

B. Material Location Reports. At weekly intervals, prepare and submit a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated or stored away from Project site.

C. Field Condition Reports. Immediately on discovery of a difference between field conditions and the Contract Documents, prepare and submit a detailed report. Submit with a request for interpretation. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

A. General. Submit special reports directly to City within one day of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events. When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise City in advance when these events are known or predictable.

PART 3 EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Contractor's Construction Schedule Updating. At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.

a. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.

b. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.

c. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribution. Distribute copies of approved schedule to Engineer, City Representative, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

a. Post copies in Project meeting rooms and temporary field offices.

b. When revisions are made, distribute updated schedules to the sameparties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION

SECTION 01312 - FIELD ENGINEERING

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Contractor shall provide and pay for field Engineering and Survey services required for the project.

B. City Project Manager will identify existing control points and property linecorner stakes indicated on the Drawings, as required.

1.2 QUALIFICATIONS OF SURVEYOR

A. Qualified Registered Professional Surveyor & Mapper, acceptable to City Project Manager.

1.3 SURVEY REFERENCE POINTS

A. City Project Manager will provide basic horizontal and vertical control points for the construction project including:

a. Permanent coordinate reference points with horizontal and vertical control, located and staked as shown on the plans.

B. The Contractor shall locate and protect control points prior to starting site construction Work and preserve all permanent reference points during construction.

a. Make no changes or relocations without prior written notice to City'sProject Manager.

b. Report to City Project Manager when any reference point is lost or destroyed, or requires relocation because of necessary changes in grades or locations.

c. Contractor's surveyor shall replace project control points which may be lost or destroyed.

i. Establish replacements based on original survey control.

1.4 PROJECT SURVEY REQUIREMENTS

A. Contractor's surveyor shall establish a minimum of two permanent benchmarks on site, referenced to data established by survey control points.

B. Contractor shall establish lines and levels, locate and lay out, prepare a Horizontal and Vertical Control Plan for the purpose of constructionstaking by instrumentation and similar appropriate means:

a. Stakes for grading and fill placement.

b. Controlling lines and levels as required.

C. From time to time, verify layouts by same methods.

D. Horizontal and vertical control plan shall be made available to City Project Manager in ACAD 2019 format or most current release.

E. Any plan released to the Contractor via electronic media is for as-built use only. They have not been geometrically calculated by a Surveyor. This applies to all aspects of the plans including, but not limited to, right-of-way, road utilities and drainage.

1.5 RECORDS

A. Maintain a complete, accurate log of all control and survey Work as it progresses.

B. On completion of construction Work, prepare a certified survey showing all dimensions, locations and elevations of project.

1.6 SUBMITTALS

A. Submit name and address of Professional Surveyor & Mapper and Professional Engineer to City Project Manager.

B. On request of City Project Manager, submit documentation to verify accuracy of field Engineering Work.

C. Submit certificate signed by Registered Engineer or Professional Surveyor & Mapper certifying that elevation and locations of Work are in conformance, or non-conformance, with Contract Documents.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01320 - PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Maintain at the site of the Owner a record copy of:

a. Drawings.

b. Specifications.

c. Addenda.

d. Change Orders and other modifications to the Contract.

e. Approved Shop Drawings, Product Data and Samples.

f. Field Test Records.

g. Stormwater Pollution Prevention Plan (SWPPP)

1.2 MAINTENANCE OF DOCUMENTS AND SAMPLES

A. Store documents and samples in Contractor's field office apart fromdocuments used for construction:

a. Provide files and racks for storage of documents.

b. Provide locked cabinet or secure storage space for storage of samples.

B. File documents and samples in accordance with CSI format.

C. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

D. Make documents and samples available at all times for inspection by Owner and City Project Manager.

1.3 MARKING DEVICES

A. Provide felt tip marking pens for recording information in the color code designatedby City Project Manager.

1.4 RECORDING

A. Label each document, "PROJECT RECORD" in neat large printed letters, or by rubber stamp.

B. Record information concurrently with construction progress. Do not conceal any Work until required information is recorded.

C. Drawings: Legibly mark to record actual construction: (hard copy and ACAD format)

a. Horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.

b. Location of internal utilities and appurtenances concealed in the construction, referenced to visible and accessible features of the structure.

c. Field changes of dimension and detail.

d. Changes made by Field Order or by Change Order.

e. Details not on original Contract Drawings.

D. Specifications and Addenda; Legibly mark each Section to record:

a. Manufacturer, trade name, catalog number, and supplier of each produce and item of equipment actually installed.

b. Changes made by Field Order or by Change Order.

1.5 AS-BUILT AND RECORD DRAWINGS

A. The term 'AS-BUILT DRAWING' refers to drawings signed and sealed by a Florida registered surveyor and mapper (PSM) provided by the Contractor. As-built information will be provided to the Engineer of Record who will prepare or have prepared record drawings based on as-built information provided by the PSM and from information provided by the engineer's staff.

B. The as-built drawings cover sheet will be signed, sealed and dated by the PSM. The cover sheet will include the PSM's name, business name, PSM number, address and telephone number and contain the following statement:

"I hereby certify that the as-built location information of the potable water, reclaimed water, wastewater and drainage facilities shown on these drawings conforms to the minimum technical standards for land surveying in the State of Florida, Chapter 5J-17.050(10)(i) (Florida Administrative Code), as adopted by the Department of Agriculture and Consumer Services, Board of Professional Surveyors and Mappers, and that said as-builts are true and correct to the best of our knowledge and belief."

C. As-builts will contain the information on the design drawings, plus the following additional requirements:

a. As-builts are to document changes between the design and construction. All information that is incorrect due to changes during construction will be corrected. Incorrect or no longer relevant information will be erased or struck through. Any facilities constructed in a horizontal or vertical location materially different (one-tenth foot horizontal, one-tenth foot vertical) than the design location will have their design location struck through and will be redrafted at the constructed location. Design drawing dimensioning to water and wastewater facilities will be corrected as necessary.

b. Drawings will be a complete set including cover sheet, index (if one was included in the approved design drawings) and any other sheets included in the approved design set. Standard detail sheets are not necessary.

c. Drawings will include the MINIMUM AS-BUILT AND RECORD DRAWING CONTENTS described in the City of Fort Lauderdale minimum standards.

D. The Contractor shall maintain full size (24"x36") field drawings to reflect the "as-built" items of Work as the work progresses. Upon completion of the Work, the Contractor shall prepare a record set of "AS-BUILT" DRAWINGS on full-size, reproducible material and an electronic file in .DWG format (AutoCAD, latest Version). One set of full size design drawings on reproducible material will be furnished to the Contractor by the designEngineer at the current square foot price. An electronic file of the design drawings on a compact disk will be furnished to the Contractor by the design Engineer at no additional cost (for as-built purposes only). No additional payment will be made for those "as-built" drawings.

E. The cost of maintaining record changes, and preparation of the AS-BUILT DRAWINGS shall be included in the unit prices bid for the affected items. Upon completion of the Work, the Contractor shall furnish the City Project Manager the reproducible AS-BUILT DRAWINGS and electronic files. The completed AS-BUILT DRAWINGS shall be delivered to the City ProjectManager at least 48 hours prior to final inspection of the Work. The Final Inspection will not be conducted unless the AS-BUILT DRAWINGS are in the possession of the City Project Manager.

F. The completed AS-BUILT DRAWINGS shall be certified by a Professional Surveyor and Mapper registered in the State of Florida. This certification shall consist of the surveyor's embossed seal bearing the registration number, the surveyor's signature and date on each sheet of the drawing set. In addition, the key sheet, cover sheet or first sheet of the plans set shall list the business address and telephone number of the surveyor. The final as-builts shall also be submitted using state plane coordinates. (NAVD 1988 for vertical; NAD '83 with '90 adjustment for horizontal).

G. Representative items of Work that should be shown on the record drawings as verified, changed or added are shown below:

a. <u>Plans:</u>

i. Structure types, location with grade of rim and flow-line elevations.

ii. Utility type, length, size and elevation in conflict structures.

iii. All maintenance access structures, valves and hydrants within right-of-way.

iv. Spot (critical) elevations at plateaued intersections. (P.C., P.T., and mid point of all intersections, etc.)

b. Pavement Marking and Signing Plans: Sign location where installed if different from plans.

c. Paving Grading and Drainage Plans: Location (horizontal and vertical) of all pipe lines, structures, finished surface elevations in all areas directly impacted by the project, limits of new pavement, etc.

H. The Contractor shall submit three sets of progress AS-BUILT DRAWINGS with each application for payment. These drawings shall accurately depict the work completed and for which payment is being requested.

I. The term 'RECORD DRAWING' refers to the final drawing set signed and sealed by the Engineer of Record. The Engineer of Record will prepare or have prepared record drawings based on as-built information provided by a PSM and from information provided by the engineer's staff. The Engineer of Record shall retain the signed and sealed 'as-built' drawings provided by the PSM with the other project records for possible review by City upon request. RECORD DRAWING shall meet the requirements of the Contract Documents.

J. AS-BUILT and RECORD DRAWINGS shall include the following contents at a minimum.

a. The amount of information required on as-built and record drawings will require the drawing author to organize its presentation in order to make the drawings readable. On occasion, it may be necessary use a table to show coordinate information.

b. Show the limits of new pavement in addition to resurfaced pavement.

c. Length of slotted exfiltration trench pipe and solid RCP drainage pipe.

d. Show elevations to the nearest one hundredth of a foot for:

i. Drainage structure grates.

ii. Inverts of every storm drainage pipe, including connections to existing pipes.

iii. Utility crossings including the bottom of pipe elevation, material, and diameter of the higher utility and the top of pipe elevation, material, and diameter of the lower utility.

iv. Finished asphalt pavement, concrete, and sod surfaces on at least a 50-ft grid minimum in addition to at grade changes, the top and bottom corners of ramps, along ADA accessible paths, along the lowest point in a swale, and at any other points within the project area as request by the Engineer or City.

e. Coordinates will be provided for City maintained facilities, including:

i. Center of installed drainage structures.

ii. Installed signage.

iii. Other locations designated by City.

f. Show the changed location of any non-water/wastewater features so they are at the visually correct location relative to City maintained facilities.

g. Drawings shall include color photographs of all connections to existing City infrastructure as well as all critical utility crossings and where specifically required on the design drawings. The pictures will be taken with a GPS camera that automatically geotags the picture. A maximum of six photographs per sheet is acceptable. Each photograph shall have a minimum size of 8”x10”. Photographs shall have a density of 3.0 megapixel or greater. Plot resolution is to be minimum 300 dots per inch. Photographs shall normally be taken from a point between four feet (4’) and six feet (6’) above the subject infrastructure and shall show good detail in both shadow and sunlit areas. Include a measuring device in the photo for scale and where applicable to indicate the depth or separationof the utilities. A symbol (i.e. an arrow) is to be used in the plan views indicating the location and direction of view for each photograph submitted. The symbol must include the photograph number. A caption under each photograph shall include the following information:

i. Photograph number

ii. Photograph description

iii. Date of photograph

iv. Location and direction of view (for example 201 NW 34 Street looking North)

v. State plane coordinates

vi. All photographs included in the drawings will also be provided to City in JPEG format on the approved media. The storage device will be labeled with the City project name and number. Individual

photo files will be named using the same photograph number contained in the drawings.

h. The size and material of the piping shall be verified by the survey crew at the time of as-built.

i. As-builts of all drainage lines shall include the following information:

   i. Rims, inverts, length of piping between structures, length of exfiltration trench, and weir elevations if applicable.

   ii. The size and material of the piping shall be verified by the survey crew at the time of as-built.

j. As-builts for the edge of pavement and sidewalk locations shall include horizontal locations and shall indicate all deviations from the design plans.

k. All rock as-builts for parking lot, roadways and swales areas shall consist of the following:

   i. Rock elevations at all high and low points, and at enough intermediate points to confirm slope consistency and every 50' for roadways.

   ii. Rock as-builts shall be taken at all locations where there is a finish grade elevation shown on the design plans.

   iii. All catch basin and maintenance access structure rim elevations shall be shown.

   iv. Elevations around island areas will also be required.

   v. As-builts shall be taken on all paved and unpaved swales prior to placement of asphalt and/or topsoil/sod, at enough intermediate points to confirm slope consistency and conformance to the plan details.

   i. Note: Rock as-builts required prior to paving. Engineer shall review rock as-builts within five days of receipt.

l. Retention area and swale as-built elevations shall be taken at the bottom of the retention area and at the top of bank. If there are contoursindicated on the design plans, then they shall be as-built as well.

m. If a change is made via field order or deviation to any structure, pipeline, etc., a new location shall be noted on the as-builts. The City Project Manager may request additional as-built information to verify horizontalor vertical locations.

1.6 SUBMITTAL

A. Submittals of final AS-BUILT DRAWINGS shall be made at the completion of

a. the drainage system;

b. the entire project.

As-builts shall also be submitted with monthly pay requests. At Contract closeout, deliver all Record Documents to City Project Manager, for presentation to the Owner.

B. A complete set of AS-BUILT DRAWINGS shall be prepared and delivered to the City Project Manager. Work shall be performed by a Registered Professional Surveyor and Mapper shall include, but not be limited to the following:

a. Valve boxes, splice boxes, pull boxes, all underground utilities-waterlines, electrical runs, irrigation system, storm drainage pipe and structures, sanitary sewer lines and structures, finished necessary grades, benches, curbs, fences, walls, signs, light fixtures and other items as necessary in accordance with City Record Plan/As-built plan requirements.

C. Accompany submittal with transmittal letter in duplicate, containing:

a. Date.

b. Project title and number.

c. Contractor's name and address.

d. Title and number of each Record Document.

e. Signature of Contractor or authorized representative.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01340 – SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. Related Sections include the following:

a. Section 01152, Applications for Payment

b. Section 01050, Project Management

c. Section 01311, Construction Progress Documentation

d. Section 01340, Construction Photographs

e. Section 01400, Quality Control

f. Section 01780, Contract Closeout

g. Section 01720, Project Record Documents

h. Divisions 02 through 16 Sections for specific requirements for submittals in those Sections.

1.3 DEFINITIONS

A. Action Submittals. Written and graphic information that requires Engineer's responsive action.

B. Informational Submittals. Written information that does not require Engineer's responsive action. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

A. Coordination. Coordinate preparation and processing of submittals with performance of construction activities.

a. Coordinate each submittal with fabrication, purchasing, testing,

delivery, other submittals, and related activities that require sequential activity.

b. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

i. City reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Submittals Schedule. Comply with requirements in Division 01 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.

C. Processing Time. Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

a. Initial Review. Allow 10 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.

b. Intermediate Review. If intermediate submittal is necessary, process it in same manner as initial submittal.

c. Resubmittal Review. Allow 10 days for review of each resubmittal.

D. Identification. Place a permanent label or title block on each submittal for identification.

a. Indicate name of firm or entity that prepared each submittal on label or title block.

b. Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by City.

c. Include the following information on label for processing and recording action taken:

i. Project name.

ii. Date

iii. Name and address of Contractor.

iv. Name and address of subcontractor.

v. Name and address of supplier.

vi. Name of manufacturer.

vii. Submittal number or other unique identifier, including revision identifier.

a. Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 06100.01.A).

viii. Number and title of appropriate Specification Section.

ix. Drawing number and detail references, as appropriate.

x. Location(s) where product is to be installed, as appropriate.

xi. General Contractor's stamp of approval must be on all submittals, indicating that the Contractor has reviewed and approved prior to submitting to the City.

E. Deviations. Highlight, encircle, or otherwise specifically identify deviations from the Contract Documents on submittals.

F. Additional Copies. Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

G. Transmittal. Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Engineer will return submittals, without review, received from sources other than Contractor.

a. Transmittal Form. Provide locations on form for the following information:

i. Project name.

ii. Date.

iii. Destination (To:).

iv. Source (From:).

v. Names of subcontractor, manufacturer, and supplier.

vi. Category and type of submittal.

vii. Submittal purpose and description.

viii. Specification Section number and title.

ix. Drawing number and detail references, as appropriate.

x. Transmittal number, numbered consecutively.

xi. Remarks.

xii. Signature of transmitter.

H. Resubmittals. Make resubmittals in same form and number of copies as initial submittal.

a. Note date and content of previous submittal.

b. Note date and content of revision in label or title block and clearly indicate extent of revision.

c. Resubmit submittals until they are marked "Approved as submitted" or “Approved as noted”.

I. Distribution. Furnish copies of final submittals to manufacturers, subcontractors, suppliers, Fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

J. Use for Construction. Use only final submittals with mark indicating "Approved as submitted" or “Approved as noted” by Engineer.

PART 2 PRODUCTS

2.1 ACTION SUBMITTALS

A. General. Prepare and submit Action Submittals required by individual Specification Sections.

B. Product Data. Collect information into a single submittal for each element of construction and type of product or equipment.

a. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.

b. Mark each copy of each submittal to show which products and options are applicable.

c. Include the following information, as applicable:

i. Manufacturer's written recommendations.

ii. Manufacturer's product specifications.

iii. Manufacturer's installation instructions.

iv. Standard color charts.

v. Manufacturer's catalog cuts.

vi. Wiring diagrams showing factory-installed wiring.

vii. Printed performance curves.

viii. Operational range diagrams.

ix. Mill reports.

x. Standard product operation and maintenance manuals.

xi. Compliance with specified referenced standards.

xii. Testing by recognized testing agency.

xiii. Application of testing agency labels and seals.

xiv. Notation of coordination requirements.

d. Submit Product Data before or concurrent with Samples.

e. Number of Copies. Submit five copies of Product Data, unless otherwise indicated. Engineer will return two copies. Mark up and retain one returned copy as a Project Record Document.

C. Shop Drawings. Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

a. Preparation. Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

i. Dimensions.

ii. Identification of products.

iii. Fabrication and installation drawings.

iv. Roughing-in and setting diagrams.

v. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.

vi. Shopwork manufacturing instructions.

vii. Templates and patterns.

viii. Schedules.

ix. Design calculations.

x. Compliance with specified standards.

xi. Notation of coordination requirements.

xii. Notation of dimensions established by field measurement.

xiii. Relationship to adjoining construction clearly indicated.

xiv. Seal and signature of professional engineer if specified.

xv. Wiring Diagrams. Differentiate between manufacturer-installedand field- installed wiring.

b. Sheet Size. Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm) but no larger than 24 by 36 inches (750 by 1000 mm).

c. Number of Copies. Submit five opaque copies of each submittal. City will retain three copies; remainder will be returned.

D. Samples. Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.

a. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.

b. Identification. Attach label on unexposed side of Samples that includes the following:

i. Generic description of Sample.

ii. Product name and name of manufacturer.

iii. Sample source.

iv. Number and title of appropriate Specification Section.

c. Disposition. Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

i. Samples that may be incorporated into the Work are indicatedin individual Specification Sections. Such Samples must be in an undamaged condition at time of use.

ii. Samples not incorporated into the Work, or otherwise designated as City's property, are the property of Contractor.

d. Samples for Initial Selection. Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.

i. Number of Samples. Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. City will return submittal with options selected.

e. Samples for Verification. Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

i. Number of Samples. Submit three sets of Samples. City will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.

a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.

b. If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule or List. As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

a. Type of product. Include unique identifier for each product.

b. Number and name of room or space.

c. Location within room or space.

d. Number of Copies. Submit five copies of product schedule or list, unless otherwise indicated. City will return two copies.

i. Mark up and retain one returned copy as a Project Record Document.

F. Contractor's Construction Schedule: Comply with requirements specified in Division 01 Section "Construction Progress Documentation" for Construction Manager's action.

G. Submittals Schedule. Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

H. Application for Payment. Comply with requirements specified in Division 01 Section "Payment Procedures."

I. Schedule of Values. Comply with requirements specified in Division 01 Section "Payment Procedures."

J. Subcontract List. Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

a. Name, address, and telephone number of entity performing subcontract or supplying products.

b. Number of Copies. Submit four copies of subcontractor list, unless otherwise indicated. City will return two copies.

i. Mark up and retain one returned copy as a Project Record Document.

2.2 INFORMATIONAL SUBMITTALS

A. General. Prepare and submit Informational Submittals required by other Specification Sections.

a. Number of Copies. Submit two copies of each submittal, unless otherwise indicated. City will not return copies.

b. Certificates and Certifications. Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized

to sign documents on behalf of that entity.

c. Test and Inspection Reports. Comply with requirements specified in Division 01 Section "Quality Requirements."

B. Coordination Drawings. Comply with requirements specified in Division 01 Section "Project Management and Coordination."

C. Contractor's Construction Schedule. Comply with requirements specified in Division 01 Section "Construction Progress Documentation."

D. Installer Certificates. Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

E. Product Certificates. Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

F. Material Certificates. Prepare written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

G. Material Test Reports. Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

H. Field Test Reports. Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.

I. Insurance Certificates and Bonds. Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, if any, and term of the coverage.

J. Construction Photographs. Comply with requirements specified in Section 01380.

PART 3 EXECUTION

3.1 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.

B. Approval Stamp. Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ENGINEER'S ACTION

A. General. Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.

B. Action Submittals. Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

a. Approved as submitted

b. Approved as noted

c. Revise and resubmit

d. Rejected.

C. Informational Submittals. Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.

D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.

E. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION

SECTION 01380 – CONSTRUCTION PHOTOGRAPHS

PART 1 GENERAL

1.1 GENERAL

A. Employ competent photographer to take construction record photographs periodically, monthly at a minimum, during course of the work.

1.2 RELATED REQUIREMENTS

A. Section 01010: Summary of Work.

B. Section 01720: Project Record Documents.

1.3 PHOTOGRAPHY REQUIRED

A. Provide photographs taken on cutoff date for each scheduled application for Payment.

B. Provide photographs taken at each major stage of construction.

C. Provide photographs taken of change order work.

D. Provide five prints of each view.

E. Negatives:

a. Remain property of photographer.

b. Require that photographer maintain negatives for a period of two years from Date of Substantial Completion of entire Project.

c. Photographer shall agree to furnish additional prints to Owner and the Engineer at commercial rates applicable at time of purchase.

1.4 COSTS OF PHOTOGRAPHY

A. Contractor shall pay costs for specified photography and prints.

a. Parties requiring additional photography or prints will pay photographer directly.

1.5 DIGITAL PHOTOGRAPHY

A. At Owner and Engineer's discretion, digital photography may be used for all construction photographs except aerial progress photographs.

PART 2 PRODUCTS

2.1 PRINTS

A. Color:

a. Paper: Single weight, color print paper.

b. Finish: Smooth surface, glossy.

c. Size: 8-inch x 10-inch.

B. Identify each print on back, listing:

a. Name of Project.

b. Specific Location.

c. Date and time of exposure.

d. Name and address of photographer.

e. Photographer's numbered identification of exposure.

PART 3 EXECUTION

3.1 TECHNIQUE

A. Factual presentation.

B. Correct exposure and focus.

a. High resolution and sharpness.

b. Maximum depth-of-field.

c. Minimum distortion.

3.2 VIEWS REQUIRED

A. Photograph from locations to adequately illustrate condition of construction and state of progress.

B. Photographs shall include aerial photographs showing the entire construction area.

3.3 DELIVERY OF PRINTS

A. Deliver prints to the Engineer to accompany each Application for Payment.

B. Distribution of prints as soon as processed, is anticipated to be as follows:

a. Owner (one set).

b. Engineer (two sets).

c. Project Record File (one set to be stored by Contractor).

d. Contractor (one set).

3.4 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section; it shall be included in the price of all other work.

END OF SECTION

SECTION 01400 – QUALITY CONTROL

PART 1 GENERAL

1.1 DEFINITION

A. Specific quality control requirements for the Work are indicated throughout the Contract and Permit Documents. The requirements of this Section are primarily related to performance of the Work beyond furnishing of manufacturedproducts. The term "Quality Control" includes inspection, sampling and testing, and associated requirements.

1.2 INSPECTION AT PLACE OF MANUFACTURE

A. Unless otherwise indicated, all products, materials, and equipment shall be subject to inspection by the Engineer at the place of manufacture.

B. The presence of the Engineer at the place of manufacturer, however, shall not relieve the Contractor of the responsibility for furnishing products, materials, and equipment, which comply with all requirements of the Contract Documents. Compliance is a duty of the Contractor, and said duty shallnot be avoided by any act or omission on the part of the Engineer.

1.3 SAMPLING AND TESTING

A. Unless otherwise indicated, all sampling and testing shall be in accordance with the methods prescribed in the current standards of the ASTM, as applicable to the class and nature of the article or materials considered.

B. Any waiver by the Owner of any specific testing or other quality assurance measures, whether or not such waiver is accompanied by a guarantee of substantial performance as a relief from the specified testing or other quality assurance requirements as originally specified, and whether or not such guarantee is accompanied by a performance bond to assure execution of any necessary corrective or remedial Work, shall not be construed as a waiver of any requirements of the Contract Documents.

C. Notwithstanding the existence of such waiver, the Engineer reserves the right to make independent investigations and tests, and failure of any portion of the Work to meet any of the requirements of the Contract Documents, shall be reasonable cause for the Engineer to require the removal or correction and reconstruction of any such work in accordance with the General Conditions.

1.4 INSPECTION AND TESTING LABORATORY SERVICE

A. Inspection and testing laboratory service shall comply with the following:

a. Contractor shall appoint, employ, and pay for services of an independent firm to perform inspection and testing.
b. The independent testing firm will perform inspections, testings and other

services specified in individual specification sections and as required by the Engineer or Owner.

c. Reports will be submitted to the Engineer in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

d. The Contractor shall cooperate with the Owner and independent testing firm and furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.

e. The Contractor shall notify Engineer and any applicable permitting agencies 48 hours prior to the expected time for operations requiring inspection and laboratory testing services, so they can be present at the time of testing

f. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the Engineer. The Contractor shall bear all costs from such retesting at no additional cost to the Owner.

g. For samples and tests required for Contractor's use, the Contractor shall make arrangements with an independent firm for payment and scheduling of testing. The cost of all sampling and testing shall be included in the Contract Price.

h. Contractor shall bear all costs incurred should the materials fortesting not be ready for testing at time specified/scheduled by Contractor for test.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 INSTALLATION

A. Inspection. The Contractor shall inspect materials or equipment upon the arrival on the job site and immediately prior to installation and reject damaged and defective items.

B. Measurements. The Contractor shall verify measurements and dimensions of the Work, as an integral step of starting each installation.

C. Manufacturer's Instructions. Where installations include manufactured products, the Contractor shall comply with manufacturer's applicable instructions and recommendations for installation, to whatever extent these are more explicit or more stringent than applicable requirements indicated in Contract Documents.

END OF SECTION

SECTION 01410 – TESTING LABORATORY SERVICES

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Contractor will employ and pay for the services of an Independent Testing laboratory to perform all required testing: (All required testing services under the Contract and Permit Documents shall be provided by the Contractor through an independent testing firm.

a. Contractor shall cooperate with the laboratory to facilitate the execution of its required services.

b. Employment of the laboratory by the Contractor for specific testing shall in no way relieve the Contractor's obligations to perform the work of the Contract as specified.

c. The tests to be provided by the Contractor shall include, but not be limited to, the following

i. Density

ii. Proctor

iii. Limerock Bearing Ratio (LBR)

iv. Carbonate Content

v. Gradation

vi. Plastic Index and Liquid Limit

vii. Organic Content

viii. Concrete Compressive Strength and Slump

ix. Asphalt Extraction

x. Any other tests as required to satisfy a permitting agency’s requirements.

B. Contractor shall pay for all required testing, including bacteriological testing.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract: Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities.

1.3 QUALIFICATION OF LABORATORY

A. Meet "Recommended Requirements for Independent Laboratory Qualification", published by American Council of Independent Laboratories.

B. Meet basic requirements of ASTM E-329.

C. Authorized to operate in the state in which the project is located.

D. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of Natural Bureau of Standards during the most recent tour of inspection, with memorandum of remedies of any deficiencies reported by the inspection.

E. Testing Equipment

a. Calibrated at reasonable intervals by devices of accuracy traceable to either:

i. National Bureau of Standards.

ii. Accepted values of natural physical constants.

1.4 LABORATORY DUTIES

A. Cooperate with Owner's Representative and Contractor; provide qualified personnel after due notice.

B. Perform specified inspections, sampling and testing of materials and methods of construction:

a. Comply with specified standards.

b. Ascertain compliance of materials with requirements of Contract Documents.

C. Promptly notify Owner's Representative and Contractor of observed irregularities of deficiencies of work or products.

D. Promptly submit written report of each test and inspection; one copy each to Owner's Representative, Owner, Contractor, and one copy to Record Document File. Each report shall include:

a. Date issued.

b. Project title, Owner’s project number and Parcel number.

c. Testing laboratory name, address and telephone number.

d. Name and signature of laboratory inspector.

e. Date and time of sampling or inspection.

f. Record of temperature and weather conditions.

g. Date of test.

h. Identification of fill product and specification section.

i. Location of sample or test in the project area (i.e. station and offset or other relevant dimensioning).

j. Type of inspection or test.

k. Results of tests and compliance with Contract Documents.

l. Interpretation of test results, when requested by Owner's Representative.

E. Perform additional tests as required by the Owner's Representative.

1.5 LIMITATION OF AUTHORITY OF TESTING LABORATORY

A. Laboratory is not authorized to:

a. Release, revoke, alter or enlarge on requirements of Contract documents.

b. Approve or accept any portion of the work.

c. Perform any duties of the Contractor.

1.6 CONTRACTOR'S RESPONSIBILITIES

A. Cooperate with laboratory personnel and provide access to work.

B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.

C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other material mixes, which require control by the Testing Laboratory.

D. Furnish copies of Products test reports as required.

E. Furnish incidental labor and facilities:

a. To provide access to work to be tested.

b. To obtain and handle samples at the project site or at the source of the product to be tested.

c. To facilitate inspections and tests.

d. For storage of test samples.

F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

a. When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section. It shall be included in the price for all other work.

END OF SECTION

SECTION 01505 – MOBILIZATION

PART 1 GENERAL

1.1 GENERAL

A. Mobilization shall include the obtaining of all permits; moving onto the site of all equipment; temporary buildings, and other construction facilities; and implementing security requirements; all as required for the proper performance and completion of the Work. Mobilization shall include the following principal items:

a. Moving on to the site of all Contractor's equipment required for first month operations.

b. Installing temporary construction power, wiring, and lighting facilities.

c. Developing construction water supply.

d. Providing field office trailers for the Contractor, complete with all specified furnishings and utility services including telephones, telephone appurtenances, and copying machine.

e. Providing all on-site communication facilities, including telephones and radio pagers.

f. Providing on-site sanitary facilities and potable water facilities.

g. Arranging for and erection of Contractor's work, site access, and storage.

h. Obtaining all required permits (including Notice of Intent (NOI) and Stormwater Pollution Prevention Plan (SWPPP) permits as needed).

i. Having all OSHA required notices and establishment of safety programs.

j. Having the Contractor's superintendent at the job site full time.

k. Submitting initial submittals.

l. Audio-Visual preconstruction record as described in Section 01010.

m. Project identification and signs.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 PAYMENT FOR MOBILIZATION

A. The Contractor's attention is directed to the condition that no payment for mobilization or any part thereof will be approved for payment under the Contract until all mobilization items listed in Paragraph 1.1.A. above have been completed as specified.

END OF SECTION

SECTION 01510 – TEMPORARY UTILITIES

PART 1 GENERAL

1.1 GENERAL REQUIREMENTS

A. Types. The types of utility services required for general temporary use at the project site include the following:

a. Water service (potable for certain uses)

b. Storm sewer

c. Sanitary sewer

d. Electric power service

e. Telephone service

B. It shall be the Contractor's responsibility to provide equipment that is adequate for the performance of the Work under this Contract within the time specified. All equipment shall be kept in satisfactory operating condition, shall be capable of safety and efficiently performing the required Work, and shall be subject to inspection and approval by the Owner's representative at any time within the duration of the Contract. All work hereunder shall conform to the applicable requirements of the OSHA Standards for Construction.

1.2 JOB CONDITIONS

A. Scheduled Uses. The Contractor shall, in conjunction with establishment of job progress schedule, establish a schedule for implementation and termination of service for each temporary utility or facility; at earliest feasible time, and when acceptable to Owner and Engineer change over from use of temporary utility service to permanent service.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 INSTALLATION OF POWER DISTRIBUTION SYSTEM

A. Power. The Contractor shall provide all necessary power required for its operations under the Contract and shall provide and maintain all temporary power lines required to perform the Work in a safe and satisfactory manner.

3.2 INSTALLATION OF LIGHTING

A. Construction Lighting. All Work conducted at night or under conditions of deficient daylight shall be suitable lighted to ensure proper Work and to afford adequate facilities for inspection and safe working conditions.

3.3 WATER SUPPLY

A. General. The Owner will furnish reasonable quantities of water required bythe Contractor in performance of the Work under the Contract; however, the Contractor shall provide all facilities necessary to convey the water from the Owner-designated source to the points of use in accordance with the requirements of the Contract Document. The Contractor shall pay all permit and water charges.

B. Potable Water. All drinking water on the site during construction shall be furnished by the Contractor and shall be bottled water or water furnishedin acceptable metal dispensers. Notices shall be posted conspicuously throughout the site warning the Contractor's personnel that piped water may be contaminated.

C. Water Connections. The Contractor shall not make connection to, or draw water from, any fire hydrant or pipeline without first obtaining permission of the authority having jurisdiction over the use of said fire hydrant or pipeline and from the agency owning the affected water system. For each such connection made, the Contractor shall first attach to the fire hydrant or pipeline a valve and a meter, if required by the said authority, of a size and type acceptable to said authority and agency. The Contractor shall pay all permit and water charges.

D. Removal of Water Connections. Before final acceptance of the Work on the project, all temporary connections and piping installed by the Contractor shall be entirely removed, and all affected improvements shall be restored to theiroriginal condition, or better, to the satisfaction of the Engineer and to the agency owning the affected utility.

3.4 INSTALLATION OF SANITARY FACILITIES

A. Toilet Facilities. Fixed or portable chemical toilets shall be provided wherever needed for the use of Contractor's employees. Toilets at construction job sites shall conform to the requirements of Subpart D, Section 1926.51 of the OSHA Standards for Construction.

B. Sanitary and Other Organic Wastes. The Contractor shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the Contractor or organic material wasted from any other source related to the Contractor's operations shall bedisposed of away from the site in a manner satisfactory to the Engineer and in accordance with all laws and regulations pertaining thereto.

3.5 INSTALLATION OF FIRE PROTECTION

A. Fire Protection. The construction of the Work shall be connected with the Contractor's water supply system and shall be adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, or other sufficient means shall be provided for fighting fires in the

temporary structures and other portions of the Work, and responsible persons shall be designated and instructed in the operation such fire apparatus so as to prevent or minimize the hazard of fire. The Contractor's fire protection program shall conform to the requirements of Subpart F of the OSHA Standards for Construction.

3.6 INSTALLATION OF COMMUNICATIONS

A. Telephone Services. The Contractor shall provide and maintain at all time during the progress of the WORK not less than one telephone in good working order, at its own field construction office, at or near the site of the Work included in the Contract. Each such telephone shall be connected to an established exchange for toll service and with all other telephones utilized by the Contractor.

B. Telephone Use. The Contractor shall permit the Engineer, the Owner, or their authorized representatives or employees free and unlimited use of said telephone facilities for all calls that do not involve published toll charges. Calls originated by the Engineer, the Owner, their authorized representatives or employees who involve toll or the Contractor at the rates charged by the telephone company shall bill message unit charge to the Owner.

3.7 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section; it shall be included in the lump sum price for Mobilization.

END OF SECTION

SECTION 01520 – CONSTRUCTION AIDS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Furnish, install and maintain required construction aids, remove on completion of work.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

PART 2 PRODUCTS

2.1 MATERIALS, GENERAL

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

2.2 CONSTRUCTION AIDS

A. Provide construction aids and equipment required by personnel and to facilitate execution of the work; scaffolds, staging, ladders, stairs, ramps, runways, platforms, railings, hoists, cranes, chutes and other such facilities and equipment.

a. Refer to respective sections for particular requirements for each trade.

b. Provide protective coverings for finished surfaces.

B. Maintain facilities and equipment in first-class condition.

PART 3 EXECUTION

3.1 PREPARATION

A. Consult with Owner's Representative, review site conditions and factors which affect construction procedures and construction aids including adjacent properties and public facilities which may be affected by execution of the work.

3.2 GENERAL

A. Comply with applicable requirements specified in sections of Division 2 through 4 (as applicable).

B. Relocate construction aids as required by progress of construction, by storage or work requirements, and to accommodate legitimate requirements of Owner and other Contractor’s employer at the site.

3.3 REMOVAL

A. Completely remove temporary materials, equipment and services:

   a. When construction needs can be met by use of permanent construction.

   b. At completion of project.

B. Clean, repair damage caused by installation or by use of temporary facilities.

   a. Remove foundations and underground installations for construction aids.

   b. Grade areas of site affected by temporary installations to required elevations and slopes, and clean the area.

C. Restore permanent facilities used for temporary purposes to specified condition.

3.4 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section, it shall be included in the price of all other work.

END OF SECTION

SECTION 01530 – PROTECTION OF EXISTING FACILITIES

PART 1 GENERAL

1.1 GENERAL

A. The Contractor shall protect all existing utilities and improvements not designated for removal and shall restore damaged or temporarily relocated utilities and improvements to a condition equal to or better than they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.

B. The Contractor shall verify the exact locations and depths of all utilities shown and the Contractor shall make exploratory excavations of all utilities that may interfere with the Work. All such exploratory excavations shall be performed as soon as practicable after award of the contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the Contractor's work. When such exploratory excavations show the utility location as shown to be in error, the Contractor shall so notify the Engineer.

C. The number of exploratory excavations required shall be that number which is sufficient to determine the alignment and grade of the utility.

1.2 RIGHTS-OF-WAY

A. The Contractor shall not do any work that would affect any oil, gas, sewer, or water pipeline; any telephone, telegraph, or electric transmission line; any fence; or any other structure, nor shall the Contractor enter upon the rights-of-way involved until notified by the Engineer that the Owner has secured authority from the proper party. After authority has been obtained, the Contractor shall give said party due notice of its intention to begin work, if required by said party, and shall remove, shore, support or otherwise protect such pipeline, transmission line, ditch, fence, or structure or replace the same. When two or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with thaton another, the Owner shall determine the sequence and order of the Work. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any otherreasonable privilege may be granted by the Owner to the Contractor so desiring, to the extent, amount, in the manner, and at the times permitted. No such decision as to the method or time of conducting the Work or the use of territory shall be made the basis of any claim for delay or damage, except as provided for temporary suspension of the Work in the General Conditions of the Contract.

1.3 PROTECTION OF STREET OR ROADWAY MARKERS

A. The Contractor shall not destroy, remove, or otherwise disturb any

existing survey markers or other existing street or roadway markers withoutproper authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced. All survey markers or points disturbed by the Contractor shall be accurately restored after all streets or roadway resurfacing has been completed.

1.4 RESTORATION OF PAVEMENT

A. General. All paved areas including asphaltic concrete berms cut or damaged during construction shall be replaced with similar materials and of equal thicknessto match the existing adjacent undisturbed areas, except where specific resurfacing requirements have been called for in the Contract Documents or in the requirements of the agency issuing the permit. All temporary and permanent pavement shall conform to the requirements of the affected pavement Owner. All pavements which are subject to partial removal shall be neatly saw cut in straight lines.

B. Temporary Resurfacing. Wherever required by the public authorities having jurisdiction, the Contractor shall place temporary surfacing promptly after backfilling and shall maintain such surfacing for the period of time fixed by said authorities before proceeding with the final restoration of improvements.

C. Permanent Resurfacing. In order to obtain a satisfactory junction with adjacent surfaces, the Contractor shall saw cut back and trim the edge so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement. Damaged edges of pavement along excavations and elsewhere shall be trimmed back by saw cutting in straight lines. All pavement restoration and other facilities restoration shall be constructed to finish grades compatible with adjacent undisturbed pavement.

D. Restoration of Sidewalks or Private Properties. Wherever sidewalks or private properties and driveways have been removed for purposes of construction, the Contractor shall place suitable temporary sidewalks or driveways promptly after backfilling and shall maintain them in satisfactory condition for the periodof time fixed by the authorities having jurisdiction over the affected portions before proceeding with the final restoration or, if no such period of times is so fixed, the Contractor shall maintain said temporary sidewalks or driveways until the final restoration thereof has been made. The Contractor shall restore all private properties within thirty (30) days after a complaint is received by the Owner.

1.5 EXISTING UTILITIES AND IMPROVEMENTS

A. General. The Contractor shall protect all Underground Utilities and other improvements which may be impaired during construction operations. It shall be the Contractor's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. The Contractor shall take

all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.

B. Utilities to be Moved. In the case it shall be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the Contractor, be notified by the Owner to move such property within a specified reasonable time. When utility lines that are tobe removed are encountered within the area of operations, the Contractor shall notify the Engineer a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.

C. Where the proper completion of the Work requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is indicated, the Contractor shall remove and, without unnecessary delay, temporarily replace or relocate such utility or improvement in a manner satisfactory to the Engineer and the Owner of the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the Contractor in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.

D. Owner's Right of Access. The right is reserved to the Owner and to the Owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in theirproperty made necessary by the Work of this Contract.

E. Underground Utilities Indicated. Existing utility lines that are indicated or the locations of which are made known to the Contractor prior to excavationand that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired or replaced by the Contractor.

F. Underground Utilities Not Indicated. In the event that the Contractor damages any existing utility lines that are not indicated or the locations of which are not made known to the Contractor prior to excavation, a written report thereof shall be made immediately to the Engineer. If directed by the Engineer, repairs shall be made by the Contractor under the provisions for changes and extra work contained in the General Conditions.

G. All costs of locating, repairing damage not due to failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not shown in the Contract Documents with reasonable accuracy, and for equipment on the project which was actually working on that portion ofthe work which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such work will be paid for as extra work in accordance with the provisions of the General Conditions.

H. Approval of Repairs. All repairs to a damaged utility or improvement are subject

to inspection and approval by an authorized representative of the utility or improvement Owner and the Engineer before being concealed by backfill or other work.

I. Maintaining in Service. All oil and gasoline pipelines, power, and telephone or the communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles, and overhead power and communication wires and cables encountered along the line of the Work shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the Engineer are made with the owner of said pipelines, duct, main, irrigation line, sewer, storm drain, pole, or wire or cable. The Contractor shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.

J. Existing Water Services. Contractor shall protect and provide temporary support for existing water services. Any water service damaged by the Contractor shall be replaced at the Contractor's expense, with a new water service complete with new water main tap.

1.6 TREES WITHIN STREET RIGHTS-OF-WAY AND PROJECT LIMITS

A. General. The Contractor shall exercise all necessary precautions so as not to damage or destroy any trees or shrubs, including those lying within street rights-of- way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the jurisdictional agency or Owner. All existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the Contractor or a certified tree company under permit from the jurisdictional agency and/or the Owner. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.

B. Trimming. Symmetry of the tree shall be preserved; no stubs or splits or torn branches left; clean cuts shall be made close to the trunk or large branch. Spikes shall not be used for climbing live trees. All cuts over 1-1/2 inches in diameter shall be coated with an asphaltic emulsion material.

C. Replacement. The Contractor shall immediately notify the jurisdictional agency and/or the Owner if any tree is damaged by the Contractor's operations. If, in the opinion of said agency or the Owner, the damage is such that replacement is necessary, the Contractor shall replace the tree at Contractor’s own expense. The tree shall be of a like size and variety as thetree damaged, or, if of a smaller size, the Contractor shall pay to the Owner of said tree a compensatory payment acceptable to the tree Owner, subject to the approval of the jurisdictional agency or Owner. The size of the trees shall be not less than 1-inch diameter nor less than 6 feet in height.

1.7 NOTIFICATION BY THE CONTRACTOR

A. Prior to any excavation in the vicinity of any existing underground facilities,including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; alltraffic signal and street lighting facilities; and all roadway and state highway rights-of-way the Contractor shall notify the respective authorities representing the Owners or agencies responsible for such facilities not less than 3 days nor more than 7 days prior to excavation so that a representative of said Owners or agencies can be present during such work if they so desire. The Contractor shall also notify the Sunshine State One Call Center 1-800-432-4770 at least 2 days, but no more than 14 days, prior to such excavation.

PART 2 PRODUCTS

2.1 MATERIALS, GENERAL

A. Materials may be new or used, suitable for the intended purpose, but mustnot violate requirements of applicable codes and standards.

2.2 FENCING

A. Materials to Contractor's option, minimum fence height = 6 feet.

2.3 BARRIERS

A. Materials to Contractor's option, as appropriate to serve required purpose.

PART 3 EXECUTION

3.1 GENERAL

A. Install facilities of a neat and reasonable uniform appearance, structurally adequate for required purposes.

B. Maintain barriers during entire construction period.

C. Relocate barriers as required by progress of construction.

3.2 TREE AND PLANT PROTECTION

A. Preserve and protect existing trees and plants adjacent to work areas.

B. Consult with Owner's Representative and remove agreed-on roots and branches which interfere with work.

a. Employ qualified tree surgeon to remove branches, and to treat cuts.

C. Protect root zones of trees and plants.

a. Do not allow vehicular traffic and parking.

b. Do not store materials or products.

c. Prevent dumping of refuse or chemically injurious materials or liquids.

d. Prevent puddling or continuous running water.

D. Carefully supervise all work to prevent damage.

E. Replace trees and plants which are damaged or destroyed due to work operations under this contract.

3.3 REMOVAL

A. Completely remove barricades, including foundations, when construction has progressed to the point that they are no longer needed, and when approved by Owner's Representative.

B. Clean and repair damage caused by installation, fill and grade areas of the site to required elevations and slopes, and clean the area.

3.4 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section, it shall be included in the price of all other work.

END OF SECTION

SECTION 01550 – SITE ACCESS AND STORAGE

PART 1 GENERAL

1.1 HIGHWAY LIMITATIONS:

A. The Contractor shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the Work. It shall be the Contractor's responsibility to construct and maintain any haul roads required for its construction operations.

1.2 TEMPORARY CROSSINGS:

A. General. Continuous, unobstructed, safe, and adequate pedestrian and vehicular access shall be provided to fire hydrants, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, and hospitals. Safe and adequate public transportation stops and pedestrian crossings at intervals not exceeding 300 feet shall be provided. The Contractor shall cooperate with parties involved in the delivery of mail and removal of trash and garbage so as to maintain existing schedules for such services. Vehicular access to residential driveways shall be maintained to the property line except when necessary construction precludes such access for reasonable periods of time.

B. Temporary Bridges. Wherever necessary, the Contractor shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases as the Contractor shall secure the written consent of the individuals or authorities concerned to omit such temporary bridges or steel plates, which written consent shall be delivered to the Engineer prior to excavation. All such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation. Temporary bridges or steel plates for street and highway crossing shall conform to the requirements of the authority having jurisdiction in each case, and the Contractor shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.

C. Street Use. Nothing herein shall be construed to entitle the Contractor to the exclusive use of any public street, alleyway, or parking area during the performance of the Work hereunder, and it shall so conduct its operations as not to interfere unnecessarily with the authorized work of utility companies or other agencies in such streets, alleyways, or parking areas. No street shall be closed to the public without first obtaining permission of the Engineer and proper governmental authority. Where excavation is being performed in primary streets or highways, one lane in each direction shall be kept open to traffic at all times unless otherwise indicated. Toe boards shall be provided to retain excavated material if required by the Engineer or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the Work shall be kept accessible to fire-fighting equipment at all times. Temporary provisions shall be made by the Contractor to assure the use of sidewalks

and the proper functioning of all gutters, storm drain inlets, and other drainage facilities.

D. Traffic Control

a. For the protection of traffic in public or private streets and ways, the Contractor shall provide, place, and maintain all necessary barricades, traffic cones, warning signs, lights, and other safety devices inaccordance with the requirements of Broward County and the "Manual of Uniform Traffic Control Devices, Part VI - Traffic Controls for Street and Highway Construction and Maintenance Operations," published by U.S. Department of Transportation, Federal Highway Administration (ANSI D6.1).

b. The Contractor shall take all necessary precautions for theprotection of the Work and the safety of the public. All barricades and obstructions shall be illuminated at night, and all lights shall be kept burning from sunset until sunrise. The Contractor shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of the Florida Department of Transportation.

c. The Contractor shall submit 3 copies of a traffic control plan to the Engineer for approval a minimum of 2 weeks prior to construction. The Engineer reserves the right to observe these traffic control plans in use and to make any changes as field conditions warrant. Any changes shall supersede these plans and be done solely at the Contractor's expense.

d. The Contractor shall remove traffic control devices when no longer needed, repair all damage caused by installation of the devices, and shall remove post settings and backfill the resulting holes to match grade.

E. Temporary Driveway Closure. The Contractor shall notify the Owner or occupant (if not Owner-occupied) of the closure of the driveways to be closed more than one eight-hour work day at least 3 working days prior to the closure. The Contractor shall minimize the inconvenience and minimize the time period that the driveways will be closed. The Contractor shall fully explainto the Owner/occupant how long the work will take and when closure is to start. Total closure time shall not exceed 5 days.

1.3 CONTRACTOR'S WORK AND STORAGE AREA:

A. The Contractor shall designate and arrange for the use of a portion of the property, adjacent to the Work for its exclusive use during the term of the Contract as a storage and shop area for its construction operations relative to thisContract.

B. The Contractor shall make its own arrangements for any necessary off-site storage or shop areas necessary for the proper execution of the Work.

C. The Contractor shall construct and use a separate storage area forhazardous materials used in constructing the Work.

a. For the purpose of this paragraph, hazardous materials to be stored in the separate area are all products labeled with any of the following terms: Warning, Caution, Poisonous, Toxic, flammable, Corrosive, Reactive, or Explosive. In addition, whether or not so labeled, the following materials shall be stored in the separate area: diesel fuel, gasoline, new and used motor oil, hydraulic fluid, cement, paints and paint thinners, two- part epoxy coatings, sealants, asphaltic products, glues, solvents, wood preservatives, sand blast materials, and spill absorbent.

b. Hazardous materials shall be stored in groupings according to the Material Safety Data Sheets.

c. The Contractor shall develop and submit to the Engineer a planfor storing and disposing of the materials above.

d. The Contractor shall obtain and submit to the Engineer a single EPA number for wastes generated at the site.

e. The separate storage area shall meet all the requirements of all authorities having jurisdiction over the storage of hazardous materials.

f. All hazardous materials which are delivered in containers shall be stored in the original containers until use. Hazardous materials which are delivered in bulk shall be stored in containers which meet the requirements of authorities having jurisdiction.

1.4 PARKING:

A. The Contractor shall:

a. Provide temporary parking areas for Engineer and Owner's use.

b. The Contractor shall direct its employees to park in designated areas secured by the Contractor.

c. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials. The Contractor shall repair breaks, potholes, low areas which collect standing water, and other deficiencies.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section, it shall be included in the price of Mobilization and of all other work.

END OF SECTION

SECTION 01560 – TEMPORARY CONTROLS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Provide and maintain methods, equipment, and temporary construction, as necessary, to provide controls over environmental conditions at the construction site and related area under Contractor's control; remove physical evidenceof temporary facilities at completion of work.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.3 NOISE CONTROL

A. Provide all necessary requirements for noise control during the constructionperiod.

a. Noise procedures shall conform to all applicable OSHA requirementsand local ordinances having jurisdiction on the work.

b. Noise levels during nighttime hours shall not exceed 55 db measuredat the property line of a residence.

1.4 DUST CONTROL

A. Provide positive methods and apply dust control materials to minimize raising dust from construction operations, and provide positive means to prevent air- borne dust from dispersing into the atmosphere.

1.5 WATER CONTROL

A. Provide methods to control surface water to prevent damage to the project, the site, or adjoining properties.

a. Control fill, grading and ditching to direct surface drainage away from excavations, pits, tunnels and other construction areas; and to direct drainage to proper runoff.

B. Provide, operate and maintain hydraulic equipment of adequate capacity to control surface and water.

C. Dispose of drainage water in a manner to prevent flooding, erosion, or other damage to any portion of the site or to adjoining areas.

1.6 PEST CONTROL

A. Provide pest control as necessary to prevent infestation of construction or storage area.

a. Employ methods and use materials which will not adversely affect conditions at the site or on adjoining properties.

b. Should the use of pesticides be considered necessary, submit an informational copy of the proposed program to Owner with a copy to Engineer. Clearly indicate:

i. The area or areas to be treated.

ii. The pesticide to be used, with a copy of the manufacturer's printed instructions.

iii. The pollution preventative measures to be employed.

B. The use of any pesticide shall be in full accordance with the manufacturer's printed instructions and recommendations.

1.7 RODENT CONTROL

A. Provide rodent control as necessary to prevent infestation of construction or storage area.

a. Employ methods and use materials, which will not adversely affect conditions at the site or on adjoining properties

b. Should the use of rodenticide be considered necessary, submit an informational copy of the proposed program to Owner with a copy to Owner's Representative. Clearly indicate:

i. the area or areas to be treated.

ii. the rodenticide to be used, with a copy of the manufacturer's printed instructions.

iii. the pollution preventative measures to be employed.

B. The use of any rodenticide shall be in full accordance with the manufacturer's printed instructions and recommendations.

1.8 DEBRIS CONTROL

A. Maintain all areas under Contractor's control free of extraneous debris.

B. Initiate and maintain a specific program to prevent accumulation of debris at construction site, storage and parking area, or along access roads and haul routes.

a. Provide containers for deposit of debris as specified in Section 01710 - Cleaning.

b. Prohibit overloading of trucks to prevent spillage on access and haul routes.

c. Provide periodic inspection of traffic areas to enforce requirements.

C. Schedule periodic collections and disposal of debris as specified in Section01710 - Cleaning.

a. Provide additional collections and disposal of debris whenever the periodic schedule is to prevent accumulation.

1.9 POLLUTION CONTROL

A. Provide methods, means and facilities required to prevent contamination of soil, water or atmosphere by the discharge of noxious substances from construction operations.

B. Provide equipment and personnel, perform emergency measures required to contain any spillage, and to remove contaminated soils or liquids.

a. Excavate and dispose of any contaminated earth off-site and replace with suitable compacted fill and topsoil.

C. Take special measures to prevent harmful substances from entering public waters.

a. Prevent disposal of wastes, effluents, chemicals, or other such substances adjacent to streams or in sanitary or storm sewers.

D. Provide systems for control of atmospheric pollutants.

a. Prevent toxic concentrations of chemicals.

b. Prevent harmful dispersal of pollutants into the atmosphere.

1.10 EROSION CONTROL

A. Plan and execute construction and earthwork, by methods to control surface drainage from cuts and fills, and from borrow and waste disposal areas to prevent erosion and sedimentation.

a. Hold the areas of bare soil exposed at one time to a minimum

b. Provide temporary control measures such as berms, dikes and drains.

c. Provide silt screens as required preventing surface water contamination.

B. Construct fills and waste areas by selective placement to eliminate surface silts or clays, which will erode.

C. Periodically inspect earthwork to detect any evidence of the start of erosion, apply corrective measures as required to control erosion.

D. All erosion control procedures must comply with the National Pollutant Discharge Elimination System (NPDES).

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section; it shall be included in the price of all other work.

END OF SECTION

SECTION 01570 – TRAFFIC REGULATIONS

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Provide, operate and maintain equipment, services and personnel, with traffic control and protective devices, as required to expedite vehicular traffic flow to provide safe and expeditious movement of traffic through and on haul routes, at site entrances, in construction zones, on-site access roads, and parking areas including driving and/or walking public.

B. Remove temporary equipment and facilities when no longer required, restore grounds to original, or specified conditions.

C. The requirements specified herein are in addition to the plan for Maintenance of Traffic as specified in Section 01500.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.3 TRAFFIC SIGNALS AND SIGNS

A. Provide and operate traffic control and directional signals or signs required to direct and maintain an orderly flow of traffic in all areas under Contractor's control, or affected by Contractor's operations.

1.4 FLAGPERSON

A. Provide qualified and suitably equipped flag-person when construction operations encroach on traffic lanes, as required for regulation of traffic.

1.5 FLARES AND LIGHTS

A. Provide flares and lights during periods of low visibility:

a. To clearly delineate traffic lanes and to guide traffic.

b. For use of flag-person in directing traffic.

B. Provide illumination of critical traffic and parking areas.

a. Maintain free vehicular access to and through parking areas.

b. Prohibit parking on or adjacent to access roads, or in non-designated areas.

1.6 HAUL ROUTES

A. Consult with Owner and governing authorities, establish public thorough fares which will be used as haul routes and site access.

B. Confine construction traffic to designated haul routes.

C. Provide traffic control at critical areas of haul routes to expedite traffic flow, to minimize interference with normal public traffic.

1.7 EMERGENCY ACCESS

A. In order to provide protection to the workers and residents, the Contractor shall maintain emergency access to all adjacent properties at all times during construction. If a road is required to be closed to vehicular traffic and the distance of the closure exceeds 150 feet between stabilized surfaces, or prevents access to properties for a distance that exceeds 150 feet, the Contractor shall provide a 10 foot wide stabilized access way on one side of the trench capable of supporting a Fire Truck. Contractor shall also provide stabilized access ways across the trench or un-stabilized area a minimum of 6 feet in width at a spacing not to exceed 100 feet capable of supporting foot traffic. These access ways shall be protected and delineated with lighted barricades or other such devicesas approved by the regulatory agency. Both ends of the emergency access way shall be blocked in accordance with the MOT permit approved by the City of Fort Lauderdale with signage indicating that this access way is to be used by emergency vehicles only.

No trenches or holes shall be left open after working hours. In the event a trench must be left open after hours, it shall be done so only with the express written permission from the Engineer, and it shall be the Contractor'sresponsibility to provide proper protection of the open trench or hole as required by the regulatory agency. In addition the Contractor shall provide a security guard at the site whenever the Contractor's personnel are not present, 24 hours per day/ 7 days per week. It shall be the Security Guard's responsibility to protect the open trench or hole from trespassers and to direct emergency personnel on site. The Security Guard shall not have any other responsibilities such as operation pumps or equipment but shall be dedicated to protecting the trench or open hole. The Security Guard shall be equipped with a wireless telephone capable of calling 911 to report an emergency and shall keep that telephone on their person at all times. In addition to this provision the contractor shall maintain trench safety and comply with current OSHA regulations and the Trench Safety Act. The contractor shall maintain and keep all safety barricades, signage, flashers, and detours, in operation condition. A copy ofthe approved MOT plans, and details, shall be on site at all times.

B. Measurement and payment for security guard services shall be included in the utility pipe installation unit price. Measurement for temporary emergency access ways will be paid for under the specified line item at the unit price described in the bid schedule.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 MEASUREMENT AND PAYMENT

A. There shall be no special measurement and payment for work under the section; it shall be included in the lump sum price bid for Maintenance of Traffic.

END OF SECTION

SECTION 01590 – PROJECT SIGN

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Contractor shall furnish a **4' x 8'** sign, **below is a sample, not specific to the project**.

B. **Sign shall be made to be weather resistant and on display for entire length of contract.**

C. **Shop drawings must be submitted prior to sign construction.**

D. **The exact style and design of the sign will be provided during the preconstruction meeting.**



E. See Page 2, "Construction Sign Request Form", for information on the sign for this Project.

END OF SECTION

Construction Sign Request Form P11870D

Title (Bold):

Title (Not Bold):

What's Happening?

Benefits:

Number of Neighbors Benefitted:

Cost:

Month and Year of Expected Completion:

Contractor:

Phone: 954-828-8000

We're Working On:

Project Manager Signature	Date

Senior Project Manager Signature	Date

SECTION 01600 – MATERIAL AND EQUIPMENT

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Material and equipment incorporated into the work:

a. Conform to applicable specifications and standards.

b. Comply with size, make, type and quality specified, or as specifically approved in writing by the Owner's Representative.

c. Manufactured and fabricated products:

i. Design, fabricate and assemble in accord with the best engineering and shop practices.

ii. Manufacture like parts of duplicate units to standard sizes and gauges to be interchangeable.

iii. Two or more items of the same kind shall be identical, by the same manufacturer.

iv. Products shall be suitable for service conditions.

v. Equipment capacities, sizes and dimensions shown or specified shall be adhered to unless variations are specifically approved in writing.

d. Do not use material or equipment for any purpose other than that for which it is designed or is specified.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.3 MANUFACTURER'S INSTRUCTIONS

A. When Contract Documents require that installation of work shall comply with manufacturer's printed instructions, obtain and distribute copies of suchinstructions to parties involved in the installation, including two copies to Owner's Representative. Maintain one set of complete instructions at the job site during installation and until completion.

B. Handle, install, connect, clean, condition and adjust products in strict accordance with such instructions and in conformity with specified requirements.

a. Should job conditions or specified requirements conflict with manufacturer's instructions, consult with Owner's Representative forfurther instructions.

b. Do not proceed with work without clear instructions.

C. Perform work in accord with manufacturer's instructions. Do not omit any preparatory step or installation procedure unless specifically modified or exempted by Contract Documents.

1.4 TRANSPORTATION AND HANDLING

A. Arrange deliveries of products in accordance with construction schedules, coordinate to avoid conflict with work and conditions at the site. Products shall be delivered to the job site on an "as needed" basis.

a. Deliver products in undamaged condition, in manufacturers' original containers or packaging, with identifying labels intact with legible markings.

b. Immediately upon delivery, inspect shipments to assure compliance with requirements of Contract Documents and approved submittals, and that products are properly protected and undamaged.

c. Pipe and materials shall not be strung out along installation routes for longer than two (2) weeks prior to installation.

B. Provide equipment and personnel to handle products by methods to prevent soiling or damage to products or packaging.

C. Coordinate deliveries to avoid conflict with Work and conditions at site:

a. Work of other contractors, or Owner.

b. Limitations of storage space.

c. Availability of equipment and personnel for handling products.

d. Owner's use of premises.

D. Deliver products in undamaged condition in original containers or packaging, with identifying labels intact and legible.

E. Partial deliveries of component parts of equipment shall be clearly marked to identify the equipment, to permit easy accumulation of parts and to facilitate assembly.

F. Immediately on delivery, inspect shipment to assure:

a. Product complies with requirements of Contract Documents and reviewed

submittals.

b. Quantities are correct.

c. Containers and packages are intact, labels are legible.

d. Products are properly protected and undamaged.

G. Provide equipment and personnel necessary to handle products, including those provided by Owner, by methods to prevent soiling or damage to products or packaging.

H. Provide additional protection during handling as necessary to prevent scraping, marring or otherwise damaging products or surrounding surfaces.

I. Handle products by methods to prevent bending or overstressing.

J. Lift heavy components only at designated lifting points.

1.5 STORAGE

A. Store products in accord with manufacturer's instructions, with seals and labels intact and legible.

a. Store products subject to damage by the elements in weather-tight enclosures.

b. Maintain temperature and humidity within the ranges required by manufacturer's instructions.

c. Store unpacked products on shelves, in bins or in neat piles, accessible for inspection.

B. Exterior Storage

a. Provide substantial platforms, blocking or skids to support fabricating products above ground, prevent soiling or staining.

i. Cover products, subject to discoloration or deterioration from exposure to the elements, with impervious sheet coverings. Provide adequate ventilation to avoid condensation.

b. Store loose granular materials on solid surface such as paved areas, or provide plywood or sheet materials to prevent mixing with foreign matter.

i. Provide surface drainage to prevent flow or ponding of rainwater.

ii. Prevent mixing of refuse or chemically injurious materials or liquids.

1.6 MAINTENANCE OF STORAGE

A. Maintain periodic system of inspection of stored products on scheduled basis to assure that:

a. State of storage facilities is adequate to provide required conditions.

b. Required environmental conditions are maintained on continuing basis.

c. Surfaces of products exposed to elements are not adversely affected.

i. Any weathering of products, coatings and finishes is not acceptable under requirements of Contract Documents.

B. Mechanical and electrical equipment which requires servicing during long term storage shall have complete manufacturer's instructions for servicing accompanying each item, with notice of enclosed instructions shown on exterior of package.

1.7 PROTECTION AFTER INSTALLATION

A. Provide protection of installed products to prevent damage from subsequent operations. Remove when no longer needed, prior to completion of work.

B. Control traffic to prevent damage to equipment and surfaces.

C. Provide coverings to protect finished surfaces from damage.

a. Cover projections, wall corners, and jambs, sills and soffits of openings, in areas used for traffic and for passage of products in subsequent work.

b. Protect finished floors and stairs from dirt and damage.

i. In areas subject to foot traffic, secure heavy paper, sheet goods, or other materials in place.

ii. For movement of heavy products, lay planking or similar materials in place.

iii. Cover wall and floor surfaces in the vicinity of construction personnel activities and all finished surfaces used by construction personnel.

D. Waterproofed surfaces

a. Prohibit use of surfaces for traffic of any kind, and for storage of any products.

b. When some activity must take place in order to carry out the Contract, obtain recommendations of installer for protection of surface.

i. Install recommended protection; remove on completion of that activity.

ii. Restrict use of adjacent unprotected areas.

E. Lawns and landscaping

a. Prohibit traffic of any kind across planted lawn and landscaped areas.

F. Arrange storage in a manner to provide easy access for inspection. Make periodic inspections of stored products to assure that products are maintained under specified conditions, and free from damage or deterioration.

1.8 SUBSTITUTIONS AND PRODUCT OPTIONS

A. Limitations on substitutions.

a. During bidding period, Instructions to Bidders govern times for submitting requests for substitutions under requirements specified in this section.

b. Substitutions will not be considered when indicated on shop drawings or product data submittals without separate formal request, when requested directly by Subcontractor or supplier, or when acceptance will require substantial revision of Contract Documents.

c. Substitute products shall not be ordered or installed without written acceptance.

d. Only one (1) request for substitution for each product will be considered. When substitution is not accepted, provide specified product.

B. Products List

a. Within 15 days after Contract Date submit to Engineer a complete listof major products proposed to be used, with the name of the manufacturer and the installing Subcontractor.

C. Contractors Options

a. For products specified only by reference standard, select any product meeting that standard.

b. For products specified by naming several products or manufacturers,select any one of the products or manufacturers named or approved equal, which complies with the Specifications.

c. For products specified by naming one or more products or manufacturers and "or approved equal," Contractor must submit a request as for substitutions for any product or manufacturer not specifically named.

D. Substitutions

a. For a period of 15 days after Contract Date, Engineer will consider written request from Contractor for substitution of products.

b. Identify product by specification Section and Article Numbers. Provide manufacturer's name and address, trade name of product, and model of catalog number. List fabricators and suppliers as appropriate.

c. List similar projects using product, dates of installation, and names of Engineer and Owner.

d. List availability of maintenance services and replacement materials.

e. Submit a separate request for each product, supported with complete data, with drawings and samples as appropriate, including:

i. Comparison of the qualities and performance of the proposed substitution with that specified.

ii. Changes required in other elements of the work because of the substitution.

iii. Effect on the construction schedule.

iv. Cost data comparing the proposed substitution with the product specified.

v. Any required license fees or royalties.

vi. Availability of maintenance services, and source of replacement materials.

f. The burden of proof as to the type, function, and quality of any such substitute material or equipment shall be upon the Contractor.

g. The Engineer will be the sole judge as to the type, function, and quality of any such substitute material or equipment and the Engineer's decision shall be final.

h. The Engineer may require the Contractor to furnish at the Contractor's expense additional data about the proposed substitute.

i. The Owner may require the Contractor to furnish at the Contractor's expense a special performance guarantee or other surety with respect to any substitute.

j. Acceptance by the Engineer of a substitute item proposed by theContractor shall not relieve the Contractor of the responsibility for full compliance with the Contract Documents and for adequacy of the

substitute item.

k. The Contractor shall be responsible for resultant changes and all additional costs which the accepted substitution requires in the Contractor work, the work of its Subcontractors and of other Contractors, and shall effect such changes without cost to the Owner.

E. Contractors Representation:

a. A request for a substitution constitutes a representation that Contractor:

i. Has investigated the proposed product and determined that it is equal to or superior in all respects to that specified.

ii. Will provide the same guarantees or bonds for the substitutionas for the product specified.

iii. Will coordinate the installation of an accepted substitution into the work, and make such other changes as may be required to make the work complete in all respects.

iv. Waives all claims for additional costs, under Contractor's responsibility, which may subsequently become apparent.

F. Submittal Procedures

a. Submit three (3) copies of request for substitution.

b. Engineer will review requests for substitutions with reasonablepromptness, and notify Contractor, in writing, of the decision to accept or reject the requested substitution.

c. During the bidding period, Engineer will record acceptablesubstitutions in Addenda.

d. After award of Contract, Engineer will notify Contractor, in writing, of decision to accept or reject requested substitutions in Addenda.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION

SECTION 01710 – CLEANING

PART 1 GENERAL

1.1 REQUIREMENTS INCLUDED

A. Execute cleaning, during progress of the Work, and at completion of the Work, as required by the General Conditions.

1.2 RELATED REQUIREMENTS

A. All applicable sections of the Specifications.

B. Conditions of the Contract.

1.3 DISPOSAL REQUIREMENTS

A. Conduct cleaning and disposal operations to comply with codes, ordinances, regulations, and anti-pollution laws.

PART 2 PRODUCTS

2.1 MATERIALS

A. Use only those cleaning materials which will not create hazards to health or property, and which will not damage surfaces.

B. Use only those cleaning materials and methods recommended by cleaning material manufacturer.

PART 3 EXECUTION

3.1 DURING CONSTRUCTION

A. Execute periodic cleaning to keep the work, the site and adjacent properties free from accumulation of waste material, rubbish and windblown debris, resulting from Construction Work.

B. Provide on-site containers for the collection of waste materials, debris and rubbish.

C. Remove waste materials, debris and rubbish from the site periodically and dispose of at legal disposal areas away from the site.

C. The Owner's Representative reserves the right to direct theContractor to remove waste materials

D. Mechanical Sweeping. Contractor shall maintain on site a mechanical sweeping device for removing debris from existing, temporary and permanent pavement.

3.2 DUST CONTROL

A. Perform operations so that dust and other contaminants resulting fromConstruction Work operations will not cause any damages or maintenance problems to adjacent properties.

B. Schedule operations so that dust and other contaminants resulting from cleaning process will not fall on wet or newly coated surfaces.

3.3 FINAL CLEANING

A. Employ skilled workmen for final cleaning.

B. Remove grease, mastic, adhesives, dust, dirt, stains, fingerprints, labels, and other foreign materials from sight-exposed interior and exterior surfaces.

C. Polish glossy surfaces to a clear shine.

D. Broom clean exterior paved surfaces; rake clean other surfaces of the grounds.

E. Prior to final completion, or Owner occupancy, Contractor shall conductan inspection of sight-exposed interior and exterior surfaces, and all work areas, to verify the entire work is clean.

F. All storage and staging areas shall be cleaned and returned to prior conditions or better as per requirements of this section.

3.4 MEASUREMENT AND PAYMENT

A. There shall be no special measurement or payment for the work under this section; it shall be included in the price of all other work.

END OF SECTION

SECTION 01720 – PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:

a. Record Drawings.

b. Record Specifications.

c. Record Product Data.

1.3 SUBMITTALS

A. Record Drawings. Comply with the following:

a. Number of Copies. Submit one set of marked-up Record Prints.

B. Record Specifications. Submit one copy of Project's Specifications, including addenda and contract modifications.

C. Record Product Data. Submit one copy of each Product Data submittal.

a. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

PART 2 PRODUCTS

2.1 RECORD DRAWINGS

A. Record Prints. Maintain one set of black-line white prints of the Contract Drawings and Shop Drawings.

a. Preparation. Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.

i. Give particular attention to information on concealed elements that

would be difficult to identify or measure and record later.

ii. Accurately record information in an understandable drawing technique.

iii. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.

a. Document with photographs.

b. Content. Types of items requiring marking include, but are not limited to, the following:

i. Dimensional changes to Drawings.

ii. Revisions to details shown on Drawings.

iii. Depths of foundations.

iv. Locations and depths of underground utilities.

v. Revisions to routing of piping and conduits.

vi. Revisions to electrical circuitry.

vii. Actual equipment locations.

viii. Changes made by Change Order or Work Change Directive.

ix. Changes made following Engineer's written orders.

x. Details not on the original Contract Drawings.

xi. Field records for variable and concealed conditions.

xii. Record information on the Work that is shown only schematically.

c. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the ContractDrawings.

d. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.

e. Mark important additional information that was either shown schematically or omitted from original Drawings.

f. Note Construction Change Directive numbers, alternate numbers, Change

Order numbers, and similar identification, where applicable.

g. Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with Engineer. Make corrections where required.

B. Format. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

a. Record Prints. Organize Record Prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.

b. Identification. As follows:

i. Project number.

ii. Project name.

iii. Date.

iv. Designation "PROJECT RECORD DRAWINGS."

v. Name of Contractor.

2.2 RECORD SPECIFICATIONS

A. Preparation. Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.

a. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.

b. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

c. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.

d. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.

e. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

A. Preparation. Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

a. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.

b. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 EXECUTION

3.1 RECORDING AND MAINTENANCE

A. Recording. Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.

B. Maintenance of Record Documents and Samples. Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Engineer's reference during normal working hours.

C. Record Documents of water, sewer and drainage must be provided for the General Contractor by a Professional Land Surveyor and must be satisfactory for approval by the Owner and shall comply with the latest approved version ofthe CADD City Standards.

D. Final pay request will not be processed until Record Documents have been completed and submitted to the City.

END OF SECTION

SECTION 01780 CONTRACT CLOSEOUT

PART 1 GENERAL

1.1 SUBMITTALS

A. Informational Submittals:

a. Submit prior to application for final payment.

i. Record Documents.

ii. As-built drawings (signed and sealed hardcopies and electronic format – PDF and CAD files)

iii. Special Bonds, Special Guarantees, and Service Agreements.

iv. Consent of Surety to Final Payment.

v. Releases or Waivers of Liens and Claims.

vi. Releases from Agreements.

vii. Final Application for Payment: Submit in accordance with procedures and requirements stated in Section 01025, Measurement and Payment.

viii. Spare Parts, Special Tools and Extra Materials: As required by individual Specification sections.

B. Subcontractor Identification Form:

a. Submit form with final pay request.

b. Submit a separate form for each subcontractor used.

c. For Capital Improvement Projects, submit form along with final pay request to the PCM.

d. Form is attached as a Supplement to this Section.

1.2 RECORD DOCUMENTS

A. Quality Assurance:

a. Furnish qualified and experienced person, whose duty and responsibility shall be to maintain record documents.

b. Accuracy of Records:

i. Coordinate changes within record documents, making legible and accurate entries on each sheet of Drawings and other documents where such entry is required to show change.

ii. Purpose of Project record documents is to document factual information regarding aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.

c. Make entries within 24 hours after receipt of information that a change in the Work has occurred.

d. Prior to submitting each request for progress payment, request PCM's review and approval of current status of record documents. Failure to properly maintain, update, and submit record documents may result in a deferral by PCM to recommend whole or any part of Contractor's Application for Payment, either partial or final.

1.3 RELEASES FROM AGREEMENTS

A. Furnish Owner written releases from property owners or public agencies where side agreements or special easements have been made, or where Contractor's operations have not been kept within the Owner's construction right-of-way.

B. In the Event Contractor is Unable to Secure Written Releases:

a. Inform PCM of the reasons.

b. Owner or its representatives will examine the site, and Owner will direct Contractor to complete the Work that may be necessary to satisfy terms of the side agreement or special easement.

c. Should Contractor refuse to perform this Work, Owner reserves right to have it done by separate contract and deduct cost of same from Contract Price, or require Contractor to furnish a satisfactory Bond in a sum to cover legal claims for damages.

d. When Owner is satisfied that the Work has been completed in agreement with Contract Documents and terms of side agreement or special easement, right is reserved to waive requirement for written release if:

i. Contractor's failure to obtain such statement is due to grantor's refusal to sign, and this refusal is not based upon any legitimate claims that Contractor has failed to fulfill terms of side agreement or special easement, or

ii. Contractor is unable to contact or has had undue hardship in contacting grantor.

1.4 AS-BUILT DRAWINGS

A. Quality Assurance

a. As-built drawings must meet all minimum City of Fort Lauderdale CAD standards and be submitted in the latest version of AutoCAD available at the time the contract is signed.

b. As-built drawings will be submitted in both electronic and hard copy forms as follow:

i. 3 hard copy sets of as-builts will be submitted on 24x36 paper signed, sealed, and dated by a Florida Professional Licensed Surveyor (PLS).

ii. 1 storage device or jump drive which will include both DWG files for the package and a PDF document including the surveyors signature and seal.

c. As-built drawings will include the following:

i. PLS name, business name, license numbers, address, and telephone number

ii. The following statement must be included:

"I hereby certify that the as-built location information of the potable water, reclaimed water, wastewater and drainage facilities shown on these drawings conforms to the minimum technical standards for land surveying in the State of Florida, Chapter 5J-17.050(10)(i) (Florida Administrative Code), as adopted by the Department of Agriculture and Consumer Services, Board of Professional Surveyors and Mappers, and that said as-builts are true and correct to the best of our knowledge and belief."

iii. As-built drawings will contain the information on the design drawings (plan and profile views) plus document changes between the design and construction including correcting all information that is incorrect due to changes during construction. Incorrect or no longer relevant information will be erased or struck through. All location changes constructed materially different (one-tenth foot horizontal, one tenth vertical) than the design location will have their design location struck through and will be redrafted at the constructed location. Design drawing dimensioning will be corrected as necessary.

iv. Drawing will be a complete set including cover sheet, index, and any other sheets included in the approved design set. Standard detail sheets are not necessary.

B. Minimum As-Built Drawing Requirements (Not applicable for this project)

a. Show the location of easements used by the water and wastewater facilities.

b. Indicate pipe joint locations where water and wastewater or reclaimed water piping crosses.

c. Indicated the length of gravity wastewater piping and actual slope between manhole centers.

d. Show all abandoned in place facilities including the extent and method of abandonment.

e. Show elevations to the nearest tenth of a foot for top of pipe for water mains, force mains, and reclaimed water mains at vertical deflection points, all bends, valves and fittings and every 200 feet along straight runs and where they cross all other facilities.

f. Show elevations to the nearest one hundredth of a foot for manhole rims, gravity main inverts at the manhole, force main connections to manholes, lift station top of slab, bottom of wet well, influent pipe invert and control set points.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 MAINTENANCE OF RECORD DOCUMENTS

A. General:

a. Promptly following commencement of Contract Times, secure from Engineer, at no cost to Contractor, one complete set of Contract Documents. Drawings will be full size.

b. Delete Engineer title block and seal from all documents.

c. Label or stamp each record document with title, “RECORDDOCUMENTS,” in neat large, printed letters.

d. Record information concurrently with construction progress and within 24 hours after receipt of information that change has occurred. Do not cover or conceal Work until required information is recorded. Contractor is responsible for maintaining up-to-date “red-lined” markups, on site, of all changes including revised locations of buried features and provides access to the City for review at any time.

e. All piping inserts, fittings, and valve locations shall be located by a Florida Licensed Surveyor in accordance with City of Fort Lauderdale

surveying standards and per NAVD 88. Contractor shall provide adequate notice to the surveyor to ensure that all locations are accessible, prior to backfill.

B. Preservation:

a. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

b. Make documents and Samples available at all times for observation by PCM or Engineer.

C. Making Entries on Drawings:

a. Using an erasable colored pencil (not ink or indelible pencil), clearly describe change by graphic line and note as required.

i. Color Coding:

a. Green when showing information deleted from Drawings.

b. Red when showing information added to Drawings.

c. Blue and circled in blue to show notes.

b. Date entries.

c. Call attention to entry by “cloud” drawn around area or areas affected.

d. Legibly mark to record actual changes made during construction, including, but not limited to:

i. Depths of various elements of foundation in relation to finished first floor data if not shown or where depth differs from that shown.

ii. Horizontal and vertical locations of existing and new Underground Facilities and appurtenances, and other underground structures, equipment, or Work. Reference to at least two measurements to permanent surface improvements.

iii. Location of internal utilities and appurtenances concealed in the construction referenced to visible and accessible features of the structure.

iv. Locate existing facilities, piping, equipment, and items critical to the interface between existing physical conditions or construction and new construction.

v. Changes made by Addenda and Field Orders, Work Change Directive, Change Order, Written Amendment, and Engineer's

written interpretation and clarification using consistent symbols for each and showing appropriate document tracking number.

e. Dimensions on Schematic Layouts: Show on record drawings, by dimension, the centerline of each run of items such as are described in previous subparagraph above.

i. Clearly identify the item by accurate notes such as “cast iron drain,” “galv. water,” and the like.

ii. Show, by symbol or note, vertical location of item (“under slab,” “in ceiling plenum,” “exposed,” and the like).

iii. Make identification so descriptive that it may be related reliably to Specifications.

D. Coordination with Florida Licensed surveyor:

a. Contractor shall not cover any bends, valves, or fittings installed until they have been located by the survey crews for the purpose of preparing as-built and/or Record Drawings.

b. If the above conditions are not met, for any reason, Contractor shall bear the cost of potholing the constructed installation to allow for the locations.

3.2 FINAL CLEANING

A. At completion of the Work or of a part thereof and immediately prior to Contractor's request for certificate of Substantial Completion; or if no certificate is issued, immediately prior to Contractor's notice of completion, clean entire site or parts thereof, as applicable.

a. Leave the Work and adjacent areas affected in a cleaned condition satisfactory to Owner and PCM.

b. Remove grease, dirt, dust, paint or plaster splatter, stains, labels, fingerprints, and other foreign materials from exposed surfaces.

c. Repair, patch, and touch up marred surfaces to specified finish and match adjacent surfaces.

d. Clean all windows.

e. Clean and wax wood, vinyl, or painted floors.

f. Broom clean exterior paved driveways and parking areas.

g. Hose clean sidewalks, loading areas, and others contiguous with principal structures.

h. Rake clean all other surfaces.

i. Replace air-handling filters and clean ducts, blowers, and coils of ventilation units operated during construction.

j. Leave water courses, gutters, and ditches open and clean.

B. Use only cleaning materials recommended by manufacturer of surfaces to be cleaned.

C. Meet all requirements of Section 02575, Surface Restoration.

3.3 SUPPLEMENTS

A. The supplements listed below, following "END OF SECTION," are part of this Specification.

a. *Subcontractor Identification Form (See next page).*

END OF SECTION

SUBCONTRACTOR IDENTIFICATION FORM

This form shall be completed by all City of Fort Lauderdale Prime Contractors who subcontracted out any portion of his/her City contract. The form shall be forwarded to the City of Fort Lauderdale's Public Services Department (Engineering and Architectural Services) with the prime contractor's final pay request. A separate formis to be completed and submitted for each subcontractor. Please telephone (954) 761-5057 or 761-5083, if youhave any questions regarding this form.

1) CITY OF FORT LAUDERDALE PROJECT NO. _____

2) PROJECT DESCRIPTION _____

3) SUBContractor ____

_____
Business Name

_____
Address

_____
Telephone & Fax Nos.

_____
Email Address/Company Wesbsite (if applicable)

4) SUBCONTRACTOR'S PRINCIPAL OFFICER

5) CLASSIFICATION OF WORK SUBCONTRACTED OUT

6) COST OF WORK SUBCONTRACTED OUT

7) Please check the item(s) which properly identify the ownership status of the subcontractor's firm:

☐ Subcontractor firm is not a MBE or WBE

☐ Subcontractor firm is a MBE, as at least 51 percent is owned and operated by one or more socially and economically-disadvantaged individuals:

☐ American Indian ☐ Asian ☐ Black ☐ Hispanic ☐ White

☐ Subcontractor firm is a WBE, as at least 51 percent is owned and operated by one or more women.

☐ American Indian ☐ Asian ☐ Black ☐ Hispanic ☐ White

8) PRIME Contractor _____

_____
NAME & TITLE OF PRIME CONTRACTOR'S REPRESENTATIVE COMPLETING THIS FORM (*Please Print*)

_____
(Telephone No.) *(Fax No.)* *(Email Address)*

SIGNATURE_____**DATE**_____
Prime Contractor's Representative

SECTION 02200 – SITE PREPARATION

PART 1 GENERAL

1.1 DEFINITIONS

A. Interfering or Objectionable Material: Trash, rubbish, and junk; vegetation and other organic matter, whether alive, dead, or decaying; topsoil.

B. Clearing. Removal of interfering or objectionable material lying on or protruding above ground surface.

C. Grubbing. Removal of vegetation and other organic matter including stumps, buried logs, and roots greater than 2 inches caliper to a depth of 12 inches below subgrade.

D. Scalping. Removal of sod without removing more than upper 3 inches of topsoil.

E. Stripping. Removal of topsoil remaining after applicable scalping is completed.

F. Project Limits Areas, as specified, within which Work is to be performed.

1.2 QUALITY ASSURANCE

A. Obtain Engineer's approval of staked clearing, grubbing, and strippinglimits, prior to commencing clearing, grubbing, and stripping.

1.3 SCHEDULING AND SEQUENCING

A. Prepare site only after adequate erosion and sediment controls are in place. Limit areas exposed uncontrolled to erosion during installation of temporary erosion and sediment controls.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

A. Clear, grubs, and strip areas actually needed for waste disposal, borrow, or site improvements within limits specified.

B. Property obstructions which are to remain in-place, such as buildings, sewers, drains, water or gas pipes, bridges, etc., are to be carefully protected from damage.

C. Do not injure or deface vegetation that is not designated for removal. All branches potentially interfering with construction operations shall be pruned prior to starting work and following approval of the City Project Manager andthe City of Fort Lauderdale Urban Forester.

3.2 LIMITS

A. As Follows, but not to Extend beyond Project Limits.

a. Excavation Including Trenches.

i. 5 feet beyond top of cut slopes or shored wall.

b. Fill.

i. Clearing and Grubbing. 5 feet beyond toe of permanent fill.

ii. Stripping and Scalping. 2 feet beyond toe of permanent fill.

c. Waste Disposal.

i. Clearing: 5 feet beyond perimeter.

ii. Scalping and Stripping: Not required.

iii. Grubbing: Around perimeter as necessary for neat finished appearance.

d. Overhead Utilities.

i. Clearing, Grubbing Scalping, and Stripping: Wherever grading is required, including borrow pits, ditches, etc.

e. Other Areas. As shown.

B. Remove rubbish, trash, and junk from entire area within Project limits.

3.3 TEMPORARY REMOVAL OF INTERFERING PLANTINGS

A. Remove and store, as specified in the Contract Documents, Trees, Plants, and Ground Covers, shrubs and trees that are not designated for removal but do interfere with construction or could be damaged by construction activities.

B. Photograph and document location, orientation, and condition of each plant prior to its removal. Record sufficient information to uniquely identify each plant removed and to assure accurate replacement.

3.4 CLEARING

A. Clear areas within limits specified.

B. Fell trees so that they fall away from facilities and vegetation not designated for removal.

C. Cut stumps not designated for grubbing 12 inches below the ground surface.

D. Cut off shrubs, brush, weeds, and grasses to within 2 inches of ground surface.

3.5 GRUBBING

A. Grub areas within limits specified.

3.6 SCALPING

A. Do not remove sod until after clearing and grubbing is completed and resulting debris is removed.

B. Scalp areas within limits specified.

3.7 STRIPPING

A. Do not remove topsoil until after scalping is completed.

B. Strip areas within limits to minimum depths specified. Do not remove subsoil with topsoil.

C. Stockpile stripping, meeting requirements of Section 02911, Soil Preparation, for topsoil, separately from other excavated material.

3.8 TREE REMOVAL OUTSIDE CLEARING LIMITS

A. Remove Within Project Limits:

a. Dead, dying, leaning, or otherwise unsound trees that may strike and damage Project facilities in falling.

b. Trees designated by Landscape Architect.

B. Cut stumps off flush with ground, remove debris, and if disturbed, restore surrounding area to its original condition.

3.9 TREE TOPPING

A. Top trees designated by City Project Manager so remaining portion willnot strike facilities in falling. Where topping will remove more than 1/2 of a tree's crown, remove entire tree.

B. Treat wounds resulting from topping in accordance with standard horticultural practice to preserve the natural character of the tree.

3.10 PRUNING

A. Remove branches below the following heights:

a. Sixteen feet above roadways and shoulders.

b. Nine feet above sidewalks.

c. Six feet above roofs.

B. Prune only after planting and in accordance with standard horticultural practice to preserve the natural character of the plant. Perform in presence of the Engineer. Remove all dead wood, suckers, and broken or badly bruised branches. Use only clean, sharp tools. Do not cut lead shoot.

3.11 DISPOSAL

A. Clearing and Grubbing Debris:

a. Woody debris may be chipped. Chips may be sold to Contractor's benefit or used for landscaping onsite as mulch or uniformly mixed with topsoil, provided that resulting mix will be fertile and not support combustion. Maximum dimensions of chipped material used onsite shall be 1/4-inch by 2 inch. Dispose of chips that are unsaleable or unsuitable for landscaping or other uses with unchipped debris.

b. Limit offsite disposal of clearing and grubbing debris to locations that are approved by federal, state, and local authorities, and that will not be visible from Project.

B. Scalping: As specified for clearing and grubbing debris.

C. Stripping:

a. Dispose of stripping that are unsuitable for topsoil or that exceed quantity required for topsoil offsite or in waste disposal areas approved by Engineer.

b. Stockpile topsoil in sufficient quantity to meet Project needs. Dispose of excess stripping as specified for clearing and grubbing.

END OF SECTION

SECTION 02240 – DEWATERING

PART 1 GENERAL (NOT USED)

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

A. The Contractor shall be responsible for design, installation, and operation of a dewatering system to dewater specified excavations.

a. The dewatering system shall be designed in accordance with the Best Management Practices (BMP's) adopted by FDEP.

b. Inspection and control of dewatering system operations will be in accordance with the FDEP guidelines established in the Florida Erosion and Sediment Control Inspector's Manual (current edition).

B. Continuously manage and control excavation water recharge in order to facilitate and not impede construction activities at all times, including weekends, holidays, and during periods of work stoppages, and furnish and install, and operate, a contingency backup dewatering system to maintain control of excavation water levels to facilitate construction (i.e.; no construction delays).

3.2 SUBMITTALS

A. Submittals shall be made in accordance with the requirements specified in Contract Documents and the requirements of this Section.

B. Provide name, address, and phone numbers of all subcontractors.

C. The Contractor shall submit a Dewatering Best Management Practices (BMP) Plan prior to the start of excavation expected to include dewatering operations. The Plan shall provide detailed descriptions of dewatering procedures to beutilized to meet the requirements of this Section. Methodologies to control dewatering discharge contamination include, but are not limited to:

a. Holding tanks of adequate size and volume.

b. Wellpointing systems.

c. Sump pumping systems.

d. Chemical precipitation of particulates.

e. Filter systems and siltation controls.

f. Outfall booms.

D. The Contractor shall provide a Site Health and Safety Plan and Activity Hazard Analysis (AHA) for contaminated soil as specified in the Contract Documents and/or groundwater as specified in this Section, to include the following:

a. A written description of the proposed method for temporary stockpiling, transportation, and disposal of all wastes.

b. Copy of permits of disposal facilities.

c. Certification of disposal of all wastes.

d. Directions to the nearest hospital and phone number.

e. Emergency contact phone numbers.

f. Laboratory analyses and sampling plan required for transportation and disposal of all wastes in accordance with applicable federal, state, and local requirements.

E. Upon Completion of Remediation Activities, the following shall be provided:

a. Copy of manifests for all wastes leaving the site.

b. Copy of the laboratory analyses results from all sampling activities.

c. Copy of closure reports that may be required.

3.3 SURFACE WATER CONTROL

A. Remove surface runoff controls when no longer needed.

B. Seal off or berm catch basins in the area of construction to prevent discharge of untreated dewatering effluent or runoff from unstabilized construction areas into storm drains.

C. All drain inlets or catch basins used for dewatering discharge shall be provided with silt and sediment removal barriers as approved by the Engineer.

a. All barriers shall be cleaned regularly to avoid sediment discharge into the storm drain system.

b. Construction activities will be stopped at no cost to the Owner until sediment controls are properly maintained, installed, and in compliance with the dewatering permit.

c. All barriers shall be removed upon issuance of a hurricane warning.

d.

3.4 DEWATERING SYSTEMS

A. Design, furnish, and install, operate, and maintain a dewatering system of sufficient size and capacity to permit excavation and subsequent construction activities in water-free conditions, and to lower and maintain the excavation area groundwater level a minimum of 2 feet below the lowest point of excavation. The dewatering system shall be designed and operated such that the system continuously maintains excavations water levels so as to maintain the excavationwater level in order to allow for the initiation and completion of excavation backfillcompaction and restoration activities.

B. Dewatering systems shall include, but is not limited to, furnishing and installing wells or well points, and or other equipment and appurtenances as may be necessary, including system components or equipment, installed outside the outermost perimeter of the excavation limits, and sufficiently below lowest point of excavation, to maintain the specified or required groundwater elevation.

C. Open trench pumping maybe permitted upon the approval of the Engineer.

D. Design and Operate Dewatering Systems:

a. To prevent loss of ground as water is removed.

b. To avoid inducing settlement or damage to existing facilities, completed Work, or adjacent property.

c. Avoid surface water pollution or discharge of sediment to storm drain systems or waterways.

E. Provide supplemental ditches and sumps only as necessary to collect water from local seeps. Do not use ditches and sumps as primary means of dewatering. The Contractor shall not direct any flow of water over pavement surfaces. Discharge of water shall be conducted as approved by the local, state, and federal agencies and the Engineer.

F. Provide controls to prevent surface water from entering excavation pits, trenches, or stockpiled materials.

3.5 PIPELINES CONSTRUCTED UNDERWATER

A. In the event that it is found that the water in a trench cannot be lowered by ordinary means, i.e., well points and pumps, an alternate construction method may be proposed by the Contractor. Complete details, specifications, manufacturer's descriptive literature, installation lists and any other pertinent dataregarding the proposed alternate method shall be submitted as an alternate by the Contractor to the City Project Manager within 5 calendar days of the time that the Contractor anticipates using such alternate method.

B. If the City Project Manager approves the alternate method in writing, it may be used, so long as the Work is performed in a manner which, in the opinionof the Engineer, conforms to the method and procedure as set forth in the

information supplied by the Contractor in his original application for use of an alternate method. The City Project Manager may revoke approval of the alternate method if at any time, in his opinion, the Work is not conforming to any applicable portion of these Specifications.

C. No pipeline shall be laid under water without approval of the City Project Manager.

D. If the dewatering system is eliminated or the effort reduced, and the pipe is laid underwater, additional pipe zone material will be required as backfill to the water table elevation, or to the level it was reduced to.

3.6 DISPOSAL OF WATER

A. All water generated, pumped, or removed from excavations as a result of excavation dewatering activities shall be collected, containerized, and managed prior to discharge and or treatment at an approved discharge point or facility, in accordance with Broward County Code of Regulation, Sections 27. Contractor shall secure, obtain, and pay for all necessary local, state, and federal permits, licenses, fees, and or approvals to discharge water or perform onsite or offsite treatment and disposal. Treat water collected by dewatering operations as required by regulatory agencies, prior to discharge.

B. Discharge water as permitted, and in regulatory compliance with Contractor obtained discharge permits/licenses.

   a. All discharge activities shall be performed so as to prevent silt and sediment discharge and eliminate any soil erosion or flooding, or otherwise damage existing facilities, completed Work, or adjacent property.

   b. Maximum allowable turbidity of discharges to surface waters or storm drains will be 10 NTU’s.

   c. Sump discharges cannot be discharged directly to storm drains or surface waters without treatment.

C. Affected storm sewer outfalls shall be protected with floating silt booms as approved by the Broward County Environmental Protection and Growth Management Division (BCEPGMD) and the Engineer. All accumulated debris resulting from the dewatering discharge collecting in the boom shall be removed on a daily basis.

D. Visible silt plumes emanating from the area around the outfalls will be considered a failure of the silt and sediment removal measures and may result in a Notice of Violation issued by BCEPGMD. The Contractor will be responsible for all fines associated with the violation of the dewatering permit conditions issued to the Contractor.

E. Failure to control dewatering discharges as described above and as detailed in the Florida Erosion and Sediment Control Inspector's Manual, may result in an order to cease dewatering operations until the discharge problems are corrected. No claims will be accepted for costs or delays associated with unacceptable dewatering discharge practices.

3.7 WELL POINT REMOVAL

A. Well point holes shall be filled with sand which shall be washed into the hole.

B. Well point holes located within asphalt pavement surfaces or concretepavements, shall be filled with sand to the subgrade. The remaining hole shall befilled with nonshrink grout.

3.8 CONTAMINATED GROUNDWATER AND DISPOSAL REQUIREMENT

A. If Contractor suspects, witnesses, or identifies, groundwater contamination at any time during the performance of the Work, Contractor shall notify the City Project Manager immediately. Results will be obtained by the onsite mobilelaboratory.

B. If analytical testing documents and indicates elevated concentrations above FDEP action levels (Chapter 62-777, Florida Administrative Code) dewatering operations will be suspended until appropriate treatment and or construction measures can be implemented. Contractor shall not resume operations until notified to do so in writing by the City Project Manager and construction of the remaining sewer pipelines in that area will be installed in the wet or normal construction activities shall be resumed in another areas determined by the Engineer. There shall be no delay or mobilization claim associated with moving to another project area, unless all other Work has been completed. In addition, the local agency will be immediately notified via telephone and in writingby the Contractor. Dewatering activities in the area will not proceed until review of the matter with the local agency is resolved and written authorization is issued.

C. The Contractor shall submit a dewatering plan to the City Project Manager for review. The Contractor is advised that the SFWMD, FDOT, BCEPGMD, etc. may require that a dewatering plan, prepared by a state of Florida licensed professional engineer or registered professional geologist, be submitted and approved prior to issuance of a dewatering permit. The Contractor will retain a state of Florida licensed Professional Engineer or registered Professional Geologist to provide an initial report of potential dewatering issues in the site vicinity. The Contractor shall retain a state of Floridalicensed Professional Engineer or registered geologist to provide any additional services required by regulatory agencies regarding dewatering and contaminatedsites.

D. The Contractor is advised that the BCEPGMD may have identified contaminated sites within ¼ mile radius of the project site. The Contractor may be required to provide testing and monitoring of the dewatering operations, and to institute

dewatering methods and controls, as required by BCEPGMD, SFWMD, FDOT, etc. The contractor will be responsible for all costs associated with means and methods of dewatering which will be set forth by dewatering permits.

E. Treatment of the groundwater will include three options depending on the magnitude of the contamination in the trench or as determined by the Engineer: Granular Activated Carbon (GAC) Treatment Vessels, Mobile AirStripping Units, or Vacuum Truck Removal and Disposal or other method as approved by the Engineer. The Contractor will provide a submittal list of all qualified groundwater remediation subcontractors for GAC vessel treatment/portable air stripping unit and vacuum truck disposal including phone numbers, contact names, and addresses prior to start of construction. The selected groundwater treatment/recycling facility for hauling contaminated groundwater shall also be identified.

F. If contaminated groundwater in the dewatering trench is encountered, the remediation operations will begin once local agency approval is obtained. Contaminated water will be disposed first into a high volume holding (FRAC) tank and then treated through a GAC unit/portable air stripper or recovered intovacuum hauling trucks for disposal.

G. Effluent water from the treatment system will be analyzed by the onsite mobile laboratory to confirm that concentrations are below regulatory limits. Effluent water will then be directed to a pre-approved alternative location as determined by local agency and/or the Engineer.

END OF SECTION

SECTION 02250 - CONTAMINATED SOIL

PART 1 GENERAL

1.1 WORK INCLUDED

A. This Section covers the Work necessary to remove, transport, and properly dispose of the following wastes:

a. Liquid petroleum product.

b. Affected soil.

c. Free petroleum product**.**

1.2 DEFINITIONS

A. Liquid petroleum product (product) is fluid petroleum product partly or entirely composed of diesel fuel or gasoline.

B. Affected soil is defined herein.

C. Free petroleum product is defined as a liquid which forms a separate floating phase distinct from the groundwater.

1.3 SUBMITTALS

A. Submittals shall be made in accordance with the requirements of the Contract Documents and the requirements of this Section.

B. The Contractor Shall Provide the Following Submittals:

a. A written description of the proposed method for temporary stockpiling, transportation, and disposal of all wastes.

b. Copy of permits of disposal facilities.

c. Certification of disposal of all wastes.

d. Copy of manifests for all wastes leaving the site.

e. Copy of the laboratory analyses required for transportation and disposal of all wastes in accordance with applicable federal, state, and local requirements.

f. Provide name, address, and phone number of all subcontractors.

PART 2 MATERIALS (NOT USED)

PART 3 EXECUTION

3.1 LIQUID PETROLEUM PRODUCT

A. Classification of liquid petroleum product shall be made by the Consultant/Geologist responsible for the testing of the product.

B. The Contractor shall remove all liquid petroleum product if discovered in the trench during dewatering operations.

C. If the petroleum product is discovered, the product will be disposed as described herein.

D. If contamination is discovered and it is determined that it must be removed, the Contractor shall commence remediation activities as determined by the Consultant/Geologist. During the remediation activities, the Contractor shall move to another location as determined by the City Project Manager to resume normal construction activities. There shall be no delay or mobilization claim associated with moving to another project area, unless all other Work has been completed.

3.2 AFFECTED SOIL

A. Excavation of affected soil shall be accomplished in accordance with the Contract Documents. The soil may be contaminated with petroleum productwhich may be partly or entirely diesel fuel, gasoline, or chlorinated solvents.

B. Classification of affected soil for disposal purposes will be determined by the Engineer using an Organic Vapor Monitor (OVM) with photo ionization detector or equivalent provided by the Consultant/Geologist. Soils with vapor readings higher than 10 parts per million (ppm) for diesel as defined in Chapter 62-770 of the Florida Administrative Code, are excessively contaminated and will be identified by the Consultant/Geologists for treatment and disposal. Affected soil must be placed on an impermeable barrier when temporarily stockpiled. All stockpile leachate or runoff must be collected for disposal in accordance with applicable federal, state, and local regulations. Soils designated for removal and disposal shall be prepared for shipment, transported, and disposed of in accordance with the requirements of this Section.

C. Affected soils shall be processed by incineration at a state licensed facility. These soils shall be transported and disposed of in accordance with federal, state, and local regulations. The Contractor shall be responsible for all soilanalyses required for transportation and disposal.

D. The Contractor shall be responsible for testing soil which has been incinerated to certify the treated soil meets applicable federal, state, and local regulations for final disposal.

3.3 FREE PETROLEUM PRODUCT

A. Some free petroleum products which may be partly or entirely diesel fuel or gasoline may be encountered during excavation activities. The Contractor shall remove free petroleum product, if necessary, when a separate floating phase greater than 0.10-inch thick is present as required by health and safety considerations. The free petroleum product shall be removed by skimming, pumping to an oil/water separator, or other approved methods.

B. Free petroleum products shall be transported and disposed by the Contractor in accordance with federal, state, and local regulations. The Contractor is responsible for any laboratory analyses required for disposal of the free petroleum products.

3.4 TRANSPORT AND DISPOSAL

A. Transport Regulations: The Contractor shall be responsible for the loading, labeling, placarding, marking, weighing, and transporting of all waste materials in accordance with the Florida Department of Transportation Regulations, and U.S. Department of Transportation Regulations. The Contractor shall use only transporters that are licensed and competent to haul these wastes.

3.5 WASTE CONTAINERS

A. Each transport container of waste shall be visually inspected by the Contractor for leaks, drips, or container damage prior to being loaded. Containers which are found to be leaking or damaged shall not be loaded until the damage is repaired. The Contractor shall prepare the transport container to prevent spillage or contamination. The Contractor shall notify the City Project Manager 2 hours before any loaded transport leaves the site.

B. All transport containers leaving the site shall be inspected by the Contractor to ensure that no waste material adheres to the wheels or undercarriage.

C. All vehicles on which waste is adhering shall be cleaned by sweeping tires and undercarriage or by other dry methods prior to leaving the site.

3.6 SHIPPING RECORDS

A. The Contractor shall prepare accurate shipping records for any wastes leaving the site in accordance with applicable federal and state regulations. The Contractor shall be responsible for providing copies of the records to the City Project Manager and shall immediately notify the City Project Manager of any problems in completing shipments and disposal of wastes.

B. The Contractor shall:

a. Be responsible for appropriate measurement of unit quantity (weight or volume) of waste material removed from the site.

b. Coordinate vehicle inspection and recording of quantities leaving the site with the City Project Manager. These quantities shall be compared

to recorded quantities received at the treatment or disposal facilities. The Contractor shall resolve any discrepancies occurring immediately, determining the probable cause for the discrepancy.

c. Be solely responsible for any and all actions necessary to remedy situations involving waste spiked in transit.

C. The Contractor shall ensure that a copy of the manifest is returned to the City Project Manager by the designated treatment or disposal facility within 14 days of receipt of the material to be disposed.

3.7 COORDINATION

A. The Contractor shall at any time provide the City Project Manager with safe access to the Work whenever it is in preparation or progress for the purposes of conducting inspections or collecting samples. The Contractor may conduct concurrent sampling and analyses, if desired. Results of any such sampling and analysis shall be furnished to the City Project Manager atno cost.

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PART 4 PAYMENT

4.1 GENERAL

A. Payment for work in this Section is included as stated in the Bid Form. The Contractor shall be responsible for appropriate measurement of unit quantity (volume or weight) of waste material removed from the site, and for verification of those quantities with receipt records from the disposal site.

END OF SECTION

SECTION 02260 - EXCAVATION SUPPORT AND PROTECTION

PART 1 GENERAL (NOT USED)

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

A. The Contractor shall be responsible to design, provide, and maintain shoring, sheeting, and bracing as necessary to support the sides of excavations and to prevent detrimental settlement and lateral movement of existing facilities, adjacent property, and completed Work.

B. Consider all available geotechnical information available when designing the excavation support system.

3.2 REMOVAL OF EXCAVATION SUPPORT

A. Remove excavation support in a manner that will maintain support as excavation is backfilled.

B. Do not begin to remove excavation support until support can be removed without damage to existing facilities, completed Work, or adjacent property.

C. Remove excavation support in a manner that does not leave voids in the backfill.

3.3 TRENCHES

A. For trench excavation exceeding 5 feet in depth, provide adequate safety system meeting requirements of the Occupational Safety and Health Administration's (OSHA), Trench Safety Standards, 29 C.F.R., S.1926.650, Subpart P, and all subsequent revisions or updates adopted by the Department of Labor and Employment Security.

END OF SECTION

SECTION 02315 – FILL AND BACKFILL

PART 1 GENERAL

1.1 DEFINITIONS

A. Prepared Ground Surface. Ground surface after completion of required demolition, clearing and grubbing, scalping of sod, stripping of topsoil, excavationto grade, and subgrade preparation.

B. Completed Course. A course or layer that is ready for next layer or next phase of Work.

C. Lift. Loose (uncompacted) layer of material.

D. Geosynthetics. Geotextiles, geogrids, or geomembranes.

E. Well-Graded:

a. A mixture of particle sizes with no specific concentration or lack thereof of one or more sizes.

b. Does not define numerical value that must be placed on coefficient of uniformity, coefficient of curvature, or other specific grain size distribution parameters.

c. Used to define material type that, when compacted, produces a strong and relatively incompressible soil mass free from detrimental voids.

F. Influence Area. Area within planes sloped downward and outward at 60-degree angle from horizontal measured from:

a. 1-foot outside outermost edge at base of foundations or slabs.

b. 1-foot outside outermost edge at surface of roadways or shoulder.

c. 0.5-foot outside exterior at spring line of pipes or culverts.

G. Borrow Material. Material from required excavations or from designated borrow areas on or near site.

H. Selected Backfill Material. Materials available onsite that City ProjectManager determines to be suitable for specific use.

I. Imported Material. Materials obtained from sources offsite, suitable for specified use.

J. Structural Fill. Fill materials as required under structures, pavements, and other facilities.

K. Embankment Material. Fill materials required to raise existing grade in areas other than under structures.

PART 2 PRODUCTS

2.1 EARTHFILL

A. Excavated material from required excavations and designated borrow sites, free from rocks larger than 3 inches, from roots and other organic matter, ashes, cinders, trash, debris, and other deleterious materials.

B. Material containing more than 10 percent gravel, stones, or shale particles is unacceptable.

C. Provide imported material of equivalent quality, if required to accomplish Work.

2.2 GRANULAR FILL

A. Use graded aggregate base material of uniform quality throughout, substantially free from vegetable matter, shale, lumps and clay balls, and having a Limerock Bearing Ratio value of not less than 100.

B. Aggregate is composed of limestone, marble, or dolomite.

C. Use material retained on the No. 10 sieve composed of aggregate meeting the following requirements:

a. Soundness Loss, Sodium, Sulfate: AASHTO T 104, 15 percent.

b. Percent Wear: AASHTO T 96 (Grading A) 45 percent.

Sieve Size	Percent by Weight Passing
2 inch	100
1-1/2 inch	95 to 100
¾ inch	65 to 90
3/8 inch	45 to 75
No. 4	35 to 60
No. 10	25 to 45
No. 50	5 to 25
No. 200	0 to 10

2.3 WATER FOR MOISTURE CONDITIONING

A. Free of hazardous or toxic contaminates, or contaminants deleterious to proper compaction.

2.4 FOUNDATION STABILIZATION ROCK

A. General:

a. Materials may be either limerock, shell rock, cemented coquina, or shell base sources approved by the Department.

B. Specific Requirements for Limerock. For limerock, carbonates of calcium and magnesium shall be at least 70 percent. Materials having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer. The gradation of limerock shall be FDOT No. 57 stone or such that 97 percent of these materials will pass a 3-1/2 inch sieve.

C. Crushed Shell. Crushed shell for this use shall be mollusk shell (i.e., oysters, mussels, clams, cemented coquina). Steamed shell will not be permitted.

D. Crushed shell shall meet the following requirements:

a. Material having a plasticity index of more than ten or a liquid limit greater than 40 shall not be used as a stabilizer.

b. At least 97 percent by weight of the total material shall pass a 3-1/2 inch sieve and at least 50 percent by weight of the total material shall be retained on the No. 4 sieve.

c. Not more than 20 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 by washing only.

d. If the shell meets the above requirements without crushing, crushing will not be required.

PART 3 EXECUTION

3.1 GENERAL

A. Keep placement surfaces free of water, debris, and foreign material during placement and compaction of fill and backfill materials.

B. Place and spread fill and backfill materials in horizontal lifts of uniform thickness, in a manner that avoids segregation, and compact each lift to specified densities prior to placing succeeding lifts. Slope lifts only where necessary to conform to final grades or as necessary to keep placement surfaces drained of water.

C. During filling and backfilling, keep level of fill and backfill around each structure and buried tank even.

D. If Pipe, Conduit, Duct Bank, or Cable is to be laid within Fill or Backfill:

a. Fill or backfill to an elevation 2 feet above top of item to be laid.

b. Excavate trench for installation of item.

c. Install bedding, if applicable, as specified in Contract Document Section - Trench Backfill.

d. Install item.

e. Backfill pipe zone and remaining trench, as specified in Contract Document Section, Trench Backfill, before resuming filling or backfilling specified in this Section.

E. Tolerances

a. Final Lines and Grades: Within a tolerance of 0.1 foot, unless dimensions or grades are shown or specified otherwise.

b. Grade to establish and maintain slopes and drainage as shown. Reverse slopes are not permitted.

F. Settlement. Correct and repair any subsequent damage to structures, pavements, curbs, slabs, piping, and other facilities, caused by settlement of fillor backfill material.

3.2 BACKFILL UNDER AND AROUND STRUCTURES

A. Under Facilities. Within influence area beneath structures, slabs, pavements, curbs, piping, conduits, duct banks, and other facilities, backfill with granular fill, unless otherwise shown. Place granular fill in lifts of 6-inch maximum thickness and compact each lift to a density of at least 100 percent of the maximum density as determined by AASHTO T99, Method C.

3.3 FILL

A. Outside Influence Areas Beneath Structures, Pavements, Curbs, Slabs, Piping, and Other Facilities: Unless otherwise shown, place earthfill as follows:

a. Allow for proper thickness of topsoil where required.

b. Maximum 8-inch thick lifts.

c. Place and compact fill across full width of embankment.

d. Compact to a density of at least 80 percent of the maximum density as determined by AASHTO T99, Method C.

e. For the outer layer of all fill where plant growth will be established, DO NOT COMPACT. Leave this layer in a loose condition to a minimum depthof 6 inches.

f. Dress completed embankment with allowance for topsoil, crest surfacing,

and slope protection, where applicable.

3.4 SITE TESTING

A. Gradation

a. One sample from each 1,500 tons of finished product or more often as determined by Engineer, if variation in gradation is occurring, or if material appears to depart from Specifications.

b. If test results indicate material does not meet Specification requirements, terminate material placement until corrective measures are taken.

c. Remove material placed in Work that does not meet Specification requirements.

B. In-Place Density Tests: In accordance with AASHTO T99, Method C. During placement of materials, test as follows:

a. Earthfill: One test per 400 feet of pipe run.

b. Granular Fill: One test per 400 feet of pipe run.

c. Foundation Stabilization Rock: One test per lift.

3.5 REPLACING OVEREXCAVATED MATERIAL

A. Replace excavation carried below grade lines shown or established by City Project Manager as follows:

a. Beneath Footings. Granular fill.

b. Beneath Fill or Backfill. Same material as specified for overlying fill or backfill.

c. Beneath Slabs-On-Grade. Granular fill.

d. Trenches:

i. Unauthorized Overexcavation: Either foundation stabilization rock or granular pipe base material, as specified in Contract Documents Section, Trench Backfill.

ii. Authorized Overexcavation: Foundation stabilization rock.

e. Permanent Cut Slopes (Where Overlying Area is Not to Receive Fill or Backfill):

i. Flat to Moderate Steep Slopes (3 to 1, Horizontal Run: Vertical Rise or Flatter): Earthfill.

ii. Steep Slopes (Steeper than 3 to 1):

a. Correct over-excavation by transitioning between over-cut areas and designed slope adjoining areas, provided such cutting does not extend offsite or outside easements and right- of-ways, or adversely impacts existing facilities, adjacent property, or completed Work.

b. Backfilling overexcavated areas are prohibited unless, in Engineer's opinion, backfill will remain stable and overexcavated material is replaced as compacted earthfill.

END OF SECTION

SECTION 02316 – EXCAVATION

PART 1 GENERAL

1.1 QUALITY ASSURANCE

A. Provide adequate survey control to avoid unauthorized over-excavation.

1.2 WEATHER LIMITATIONS

A. Material excavated during inclement weather shall not be used as fill or backfill until after material drains and dries sufficiently for proper compaction.

1.3 SEQUENCING AND SCHEDULING

A. Clearing, Grubbing, and Stripping: Complete applicable Work specified in Contract Documents prior to excavating.

B. Contractor shall call the utility companies 72 hours before excavation per the requirements of the Contract Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

A. Excavate to lines, grades, and dimensions shown and as necessary to accomplish Work. Excavate to within tolerance of plus or minus 0.1 foot except where dimensions or grades are shown or specified as maximum or minimum. Allow for forms, working space, granular base, topsoil, and similar items, wherever applicable. Trim to neat lines where concrete is to be deposited against earth.

B. It shall be the Contractor's responsibility to notify business establishments and residents not less than 72 hours prior to construction. Contractor shall, wherever necessary, provide temporary sidewalks and driveway entrances at his own expense, including safe bridges over trenches and fencing around excavationsfor pedestrian protection.

C. Provide adequate survey control to avoid unauthorized over excavation. Do not over excavate without written authorization of Engineer. If the Contractor excavates beyond the limits shown or specified, the Contractor shall replace such excavation at his own expense. Replace over excavated material as specified in Contract Documents.

D. Where muck, rock, clay, or other material within the limits of excavation is unsuitable in its original position, excavate such material to the cross-sections shown or specified. Backfill with suitable material and shape to the required cross-section.

E. Remove or protect obstructions as shown on the Drawings.

3.2 UNCLASSIFIED EXCAVATION

A. Excavation is unclassified. Complete all excavation regardless of the type, nature, or condition of the materials encountered.

3.3 TRENCH WIDTH

A. Minimum Width of Trenches:

a. Single Pipes, Conduits, Direct-Buried Cables, and Duct Banks:

i. Less than 4-Inch Outside Diameter or Width: 18 inches.

ii. Greater than 4-Inch Outside Diameter or Width: 18 inches greater than outside diameter or width of pipe, conduit, direct-buried cable, or duct bank.

b. Multiple Pipes, Conduits, Cables, or Duct Banks in Single Trench: 18 inches greater than aggregate width of pipes, conduits, cables, duct banks, plus space between.

c. Increase trench widths by thicknesses of sheeting, if used.

d. The maximum trench width shall not exceed the minimum stated width of the trench unless approved by the Engineer. Restoration for excavation beyond the minimum required width shall be at the Contractor's sole expense.

B. The Contractor shall be responsible to design, provide, and maintain shoring, sheeting, and bracing as necessary to support the sides of excavations and to prevent detrimental settlement and lateral movement of existing facilities, adjacent property, and completed Work.

C. Consider all available geotechnical information available when designing the excavation support system.

D. Remove excavation support in a manner that will maintain support as excavation is backfilled.

E. Do not begin to remove excavation support until support can be removed without damage to existing facilities, completed Work, or adjacent property.

F. Remove excavation support in a manner that does not leave voids in the backfill.

G. For trench excavation exceeding 5 feet in depth, provide adequate safety system meeting requirements of the Occupational Safety and Health Administration's (OSHA), Trench Safety Standards, 29 C.F.R., S.1926.650, Subpart P, and all

subsequent revisions or updates adopted by the Department of Labor and Employment Security.

3.4 EMBANKMENT AND CUT SLOPES

A. Shape, trim, and finish cut slopes to conform with lines, grades, and cross- sections shown, with proper allowance for topsoil or slope protection, where shown.

B. Remove stones and rock that exceed 3-inch diameter and that are loose and may roll down slope. Remove exposed roots from cut slopes.

C. Round tops of cut slopes in soil to not less than a 6-foot radius, provided such rounding does not extend offsite or outside easements and right-of-ways, or adversely impacts existing facilities, adjacent property, or completed Work.

3.5 STOCKPILING EXCAVATED MATERIAL

A. Stockpile excavated material that is suitable for use as fill or backfill until material is needed.

B. Post signs indicating proposed use of material stockpiled. Post signs that are readable from all directions of approach to each stockpile. Signs should be clearly worded and readable by equipment operators from their normal seated position.

C. Confine stockpiles to within easements, rights-of-way, and approved work areas. Do not obstruct roads, streets, public thoroughfares, or access to fire hydrants.

D. Do not stockpile excavated material adjacent to trenches and other excavations unless excavation side slopes and excavation support systems are designed, constructed, and maintained for stockpile loads.

E. Do not stockpile excavated materials near or over existing facilities, adjacent property, or completed Work, if weight of stockpiled material could induce excessive settlement.

3.6 DISPOSAL OF SPOIL

A. Dispose of excavated materials, which are unsuitable or exceed quantity needed for fill or backfill, offsite.

B. Dispose of debris resulting from removal of organic matter, trash, refuse, and junk as specified in the Contract Documents, for clearing and grubbing debris.

END OF SECTION

SECTION 02319 – SUBGRADE PREPARATION

PART 1 GENERAL

1.1 DEFINITIONS

A. Prepared Ground Surface. Ground surface after completion of clearing and grubbing, scalping of sod, stripping of topsoil, excavation to grade, and scarification and compaction of subgrade.

B. Subgrade. Layer of existing soil after completion of clearing, grubbing, scalping of topsoil prior to placement of fill, roadway structure or base for floor slab.

C. Proof-Rolling. Testing of subgrade by compactive effort to identify areas that will not support the future loading without excessive settlement.

1.2 QUALITY ASSURANCE

A. Notify Engineer when subgrade is ready for compaction or proof-rolling or whenever compaction or proof-rolling is resumed after a period of extended inactivity.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL

A. Keep subgrade free of water, debris, and foreign matter during compaction or proof-rolling.

B. Bring subgrade to proper grade and cross-section and uniformly compact surface.

C. Do not use sections of prepared ground surface as haul roads. Protect prepared subgrade from traffic.

D. Maintain prepared ground surface in finished condition until next course is placed.

3.2 COMPACTION

A. Under Earthfill: Compact upper 6 inches to minimum of 80 percent of the maximum density as determined by AASHTO T99, Method C.

B. Under Pavement, Floor Slabs On Grade, or Granular Fill under Structures: Compact the upper 12 inches or as shown on the Drawings, to minimum of 100 percent of the maximum dry density as determined by AASHTO T99, Method C.

3.3 MOISTURE CONDITIONING

A. Dry Subgrade: Add water, then mix to make moisture content uniform throughout.

B. Wet Subgrade: Aerate material by blading, discing, harrowing, or other methods, to hasten drying process.

3.4 TESTING

A. Proof-roll subgrade with equipment specified in Article Compaction to detect soft or loose subgrade or unsuitable material, as determined by Engineer.

3.5 CORRECTION

A. Soft or Loose Subgrade:

a. Adjust moisture content and recompact, or

b. Over excavate and replace with suitable material from the excavation, as specified in the Contract Documents.

c. Unsuitable Material: Over excavate and replace with suitable material from the excavation, as specified in Contract Documents.

END OF SECTION

SECTION 02320 – TRENCH BACKFILL

PART 1 GENERAL

1.1 DEFINITIONS

A. Base Rock. Granular material upon which manhole bases and other structures are placed.

B. Bedding Material. Granular material upon which pipes, conduits, cables, or duct banks are placed.

C. Imported Material. Material obtained by the Contractor from source(s) offsite.

D. Lift. Loose (uncompacted) layer of material.

E. Pipe Zone. Backfill zone that includes full trench width and extends from prepared trench bottom to an upper limit above top outside surface of pipe, conduit, cable or duct bank.

F. Prepared Trench Bottom. Graded trench bottom after excavation and installation of stabilization material, if required, but before installation of bedding material.

G. Selected Backfill Material. Material available onsite that City Project Manager determines to be suitable for a specific use.

H. Well-Graded. A mixture of particle sizes that has no specific concentration or lack thereof of one or more sizes producing a material type that, when compacted, produces a strong and relatively incompressible soil mass free from detrimental voids. Well-Graded does not define any numerical value that must be placed on the coefficient of uniformity, coefficient of curvature, or other specific grain size distribution parameters.

PART 2 PRODUCTS

2.1 GEOTEXTILE

A. As specified in the Contract Documents.

2.2 MARKING TAPE

A. Plastic:

a. Inert polyethylene, impervious to known alkalis, acids, chemical reagents, and solvents likely to be encountered in soil.

b. Thickness: Minimum 4 mils.

c. Minimum Width: 2 inches.

d. Identifying Lettering: Minimum 1-inch high, permanent black lettering imprinted continuously over entire length.

e. Manufacturers and Products:

i. Reef Industries; Terra Tape.

ii. Allen; Markline.

B. Metallic:

a. Solid aluminum foil, visible on unprinted side, encased in a protective high visibility, inert polyethylene plastic jacket.

b. Foil Thickness: Minimum 5.5 mils.

c. Width: 2 inches.

d. Identifying Lettering: Minimum 1-inch high, permanent black lettering imprinted continuously over entire length.

e. Joining Clips: Tin or nickel-coated furnished by tape manufacturer.

f. Manufacturers and Products:

i. Reef Industries; Terra ”D”.

ii. Allen; Detectable tape.

C. Color:

a. In accordance with APWA Uniform Color Code for Temporary Marking of Underground Facilities.

Color[a]	**Facility**
Red	Electric power lines, cables, conduit, and lightning cables
Orange	Communicating alarm or signal lines, cables, or conduit
Yellow	Gas, oil, steam, petroleum, or gaseous materials
Green	Sewers and drain lines
Blue	Water, irrigation, and slurry lines
[a]As specified in ANSI Z53.1, Safety Color Code.	

2.3 TRENCH STABILIZATION MATERIAL

A. Foundation stabilization rock as specified in the Contract Documents.

2.4 BEDDING MATERIAL AND PIPE ZONE MATERIAL

A. Granular fill as specified in the Contract Documents.

2.5 EARTH BACKFILL

A. Earth fill as specified in the Contract Documents.

PART 3 EXECUTION

3.1 TRENCH PREPARATION

A. Water Control:

a. As specified in the Contract Documents

b. Remove water in a manner that minimizes soil erosion from trench sides and bottom.

c. Provide continuous water control until trench backfill is complete.

B. Remove foreign material and backfill contaminated with foreign material that falls into trench.

C. Where the trench has been dewatered, backfilling must be done before the pumps are shut off so that the pipe will not float. Any pipe which has been displaced because of floatation will be removed and installed correctly at the Contractor's expense.

3.2 TRENCH BOTTOM

A. Firm Subgrade: Grade with hand tools, remove loose and disturbed material, and trim off high areas and ridges left by excavating bucket teeth. Allow space for bedding material if shown or specified.

B. Soft Subgrade: If subgrade is encountered that may require removal to prevent pipe settlement, notify City Project Manager. The City Project Manager will determine depth of over-excavation, if any, required.

3.3 TRENCH STABILIZATOIN MATERIAL INSTALLATION

A. Rebuild trench bottom with trench stabilization material as directed by the Engineer.

B. Place material over full width of trench in 6-inch lifts to required grade, providing allowance for bedding thickness.

C. Compact each lift so as to provide a firm, unyielding support for the bedding material prior to placing succeeding lifts.

3.4 BEDDING

A. Furnish granular fill or imported bedding material as directed by the

Engineer.

B. Place over the full width of the prepared trench bottom in two equal lifts when the required depth exceeds 8 inches.

C. Hand grade and compact each lift to provide a firm, unyielding surface.

D. Minimum thickness from the following depths below the bottom to the spring line of the pipe are as follows, except increase depths listed by 6 inches in areas of rock excavation:

a. Pipe, 15 Inches and Smaller: 4 inches.

b. Pipe, 18 Inches to 36 Inches: 6 inches.

c. Pipe, 42 Inches and Larger: 8 inches.

d. Conduit: 3 inches.

e. Direct-Buried Cable: 3 inches.

f. Duct Banks: 3 inches.

E. Check grade and correct irregularities in bedding material. Loosen top 1 to 2 inches of compacted bedding material with a rake or by other means to provide a cushion before laying each section of pipe, conduit, direct-buried cable, or duct bank.

F. Install to form continuous and uniform support except at bell holes, if applicable, or minor disturbances resulting from removal of lifting tackle.

G. Bell or Coupling Holes. Excavate in bedding at each joint to permit properassembly and inspection of joint and to provide uniform bearing along barrel of pipe or conduit.

3.5 BACKFILL PIPE ZONE

A. Furnish granular fill or imported bedding material as directed by the Engineer.

B. Upper Limit of Pipe Zone Shall Not Be Less Than Following:

a. Pipes:

i. Up to 12-Inch Diameter: 6 inches above top of pipe.

ii. Greater than 12-Inch Diameter: 12 inches above top of pipe, unless shown otherwise.

b. Conduit: 3 inches, unless shown otherwise.

c. Direct-Buried Cable: 3 inches, unless shown otherwise.

d. Duct Bank: 3 inches, unless shown otherwise.

C. Restrain pipe, conduit, cables, and duct banks as necessary to prevent their movement during backfill operations.

D. Place material simultaneously in lifts on both sides of pipe and, if applicable, between pipes, conduit, cables, and duct banks installed in same trench. Compact to 90 percent density as determined by AASHTO T99.

a. Pipes 10 Inches and Smaller Diameter: First lift less than or equal to 1/2 pipe diameter but not less than 3 inches.

b. Pipes Over 10-Inch Diameter: Maximum 6-inch lifts.

E. Thoroughly tamp each lift, including area under haunches, with handheld tamping bars supplemented by "walking in" and slicing material under haunches with a shovel to ensure that voids are completely filled before placing each succeeding lift. Compact material in pipe zone to at least 98 percent maximum density as determined by AASHTO T180.

F. After the full depth of the pipe zone material has been placed as specified, compact the material by a minimum of three passes with a vibratory plate compactor only over the area between the sides of the pipe and the trench walls. Contractor shall exercise proper care to ensure that no pipe joints will be broken, damaged, or disturbed through the use of any compacting equipment.

G. Do not use power-driven impact compactors to compact pipe zone material.

H. Where approved by the Engineer, hydraulic compaction of the pipe zone material and granular trench backfill may be used providing density testing requirements are met. A submittal describing the method of hydraulic compaction will be required.

3.6 MARKING TAPE INSTALLATION

A. Continuously install marking tape along centerline of all buried piping, on top of last lift of pipe zone material. Coordinate with piping installation drawings.

a. Metallic Marking Tape: Install with nonmetallic piping and waterlines.

b. Plastic Marking Tape: Install with metallic piping.

3.7 BACKFILL ABOVE PIPE ZONE

A. General:

a. Process excavated material to meet specified gradation requirements.

b. Adjust moisture content as necessary to obtain specified compaction.

c. Do not allow backfill to free fall into the trench or allow heavy, sharp pieces of material to be placed as backfill until after at least 2 feet of backfill has been provided over the top of pipe.

d. Do not use power driven impact type compactors for compaction until at least 4 feet of backfill is placed over top of pipe.

e. Backfill to grade with proper allowances for topsoil, crushed rock surfacing and pavement thicknesses, wherever applicable.

f. Backfill around structures with same class backfill as specified for adjacent trench unless otherwise shown or specified.

g. Hydraulic compaction may be allowed based upon approval by the City Project Manager of the Contractor's detailed compaction and testing procedures.

B. Backfill for Areas in Landscaped Areas:

a. Place in lifts not exceeding 12-inch thickness.

b. Mechanically compact each lift to a minimum of 80 percent of the maximum density prior to placing succeeding lifts.

C. Backfill for Areas under Facilities and Pavements: Backfill trench above the pipe zone with granular backfill in lifts not exceeding 12 inches. Compact each lift to a minimum of 98 percent of the maximum density compaction as determined by AASHTO Method T180, 100% for Broward County Rights Of Way, prior to placing succeeding lifts.

3.8 ALTERNATE METHOD OF CONSTRUCTION

A. When high water tables, porous soils or other limitations to dewatering are encountered, the Contractor may request the approval of the City Project Manager for an alternate method of construction.

B. Use of alternative methods shall not relieve the Contractor of the work, result in increased costs to the Owner or reductions in the quality of the work as defined by testing and acceptance requirements.

C. Removal of water requirements will be waived and the pipe and appurtenances will be permitted to be installed underwater.

D. Excavation shall be performed in accordance with the Contract Documents to the specified limits. The excavation shall be cleared of silt and other fines.

E. Pipe bedding shall be placed from the bottom of the excavation to 6 inches

above the top of the pipe. The bedding shall be granular fill as described in the Contract Documents.

F. Select backfill material shall be used to backfill the trench from the top of the bedding to a level 1 foot above the standing water level in the trench. Select material shall be FDOT # 57 stone or granular fill as described in the Contract Documents. This lift shall be compacted in accordance with the provisions of this Section after which the remainder of the backfill can proceed as normal.

G. If the above described method is used, all backfill material used below the water table shall not be released into the trench until the bucket or container is less than 1 foot above the water level. Pipe bedding and pipe zone material as defined above shall not be dumped or pushed into the trench.

3.9 MAINTENANCE OF TRENCH BACKFILL

A. After each section of trench is backfilled, maintain the surface of the backfilled trench even with the adjacent ground surface until final surface restoration is completed.

B. Other Areas: Add excavated material where applicable and keep the surface of the backfilled trench level with the adjacent ground surface.

C. Water shall be applied to the unstabilized trench backfill to control dust asdirected by the Engineer.

D. Placement of lime rock base course and prime coat shall occur no longer than 5 days following trench backfill or as soon thereafter as record information is available to verify that pipe inverts and slopes are acceptable.

3.10 SETTLEMENT OF BACKFILL

A. Settlement of trench backfill, or of fill or facilities constructed over trench backfill within the warranty period for the project will be considered a result of defective compaction of trench backfill.

END OF SECTION

SECTION 02340 - EROSION CONTROL AND SOIL STABILIZATION

PART 1 GENERAL

1.1 DEFINITIONS

A. Soil Erosion Stabilization:

a. Provide erosion control measures on the Project and in areas where work is accomplished in conjunction with the Project, so as to prevent pollution of water, detrimental effects to public or private property adjacent to the Project.

b. Ground surfaces exposed during the wet season.

c. Areas which will not be subjected to heavy wear by ongoing construction traffic.

d. Temporary and long-term stabilization of new disturbed ditches, swales, storm water ponds, or disturbed ground with intermittent constructiontraffic.

B. Buffer Zone: Undisturbed area or, strip of natural vegetation, or an established suitable planting adjacent to disturbed area that reduces erosion and runoff.

C. Coordinate the installation of temporary erosion control features with the construction of the permanent erosion control features to the extent necessary to ensure economical, effective, and continuous control of erosion and water pollution.

D. Permanent Stabilization:

a. Permanently stabilize exposed soil surfaces at finished grades.

b. Permanent stabilization methods include, but are not limited to, sodding (permanent), mulching, and landscaping.

c. Immediately perform permanent stabilization at each completed excavation and embankment areas except for areas that are scheduled to be redisturbed.

d. Incorporate all permanent erosion control features into the Project at the earliest practical time.

1.2 DELIVERY, STORAGE AND PROTECTION

A. General: Prevent or reduce the discharge of pollutants to storm water from all material delivery or storage by minimizing the storage of hazardous materials onsite, storing materials in a designated area, installing secondary containment, conducting regular inspection, and training employees or subcontractors.

B. Sod: As specified in the Contract Documents.

C. Mulch: Mark package of mulch to show air-dry weight.

1.3 SEQUENCING AND SCHEDULING

A. Contractor shall accept responsibility for existing soil and erosion control on the site, including maintenance, installed before starting earth disturbance activities.

B. Projects permitted by the South Florida Water Management District require written approval of the erosion/sedimentation control plan. City Project Manager's acceptance of Construction Period Erosion/Sedimentation Control Plan required prior to starting earth disturbing activities.

C. Complete soil preparation, sodding, fertilizing, mulching, and matting on disturbed areas that will require stabilization either because the area has reachedfinal grade (permanent landscaping) or because the area remains unworked for over 14 days (temporary sodding) during the wet season.

D. Notify City Project Manager at Least 3 Working Days in Advance of:

a. Materials delivery.

b. Start of planting activity.

E. Sodding: Perform under favorable weather conditions during seasons that are normal, for such Work as determined by accepted local practice.

1.4 MAINTENANCE

A. Operations:

a. Sodded Areas: Perform during maintenance period to include:

i. Watering: Keep surface moist.

ii. Washouts: Repair by filling with topsoil and replace sodded areas.

iii. Mulch: Replace wherever and whenever washed or blown away.

iv. Resod unsatisfactory areas or portions thereof immediately if a satisfactory stand has not been produced.

b. Inspect, repair, and replace as necessary all erosion control measures during the time period from start of construction to completion of construction.

c. Inspect a minimum of at least once every 7 days or after each storm event and at least daily during prolonged rainfall. At no time shall more than 1 foot of sediment be allowed to accumulate in any erosion control device. The cleaning operation shall not dispose of sediment offsite.

B. Sediment Removal:

a. Remove sediment from erosion control devices and work into the grading plan at least once a week as required to maintain proper operation of devices. The cleaning operation shall not dispose of sediment offsite.

b. Sediment shall be removed, and the controls upgraded or repaired as needed as soon as practicable, but not later than 2 days after the surrounding exposed ground has dried sufficiently to prevent further damage from equipment needed for repair operations.

c. In the event of continuous rainfall over a 24-hour period, or other circumstances that preclude equipment operation in the area, hand carry and install additional sediment controls as approved by the City Project Manager.

d. Replace rock filters with new rock at least once a month or when the sediment reduces by one half the filtering capacity of the facility.

PART 2 PRODUCTS

2.1 FERTILIZER

A. Commercial, uniform in composition, free-flowing, suitable for application with equipment designed for that purpose.

B. Fertilizer shall have the Following Minimum Percentage of Plant Food by Weight:

a. Nitrogen: 16 percent.

b. Phosphoric Acid: 4 percent.

c. Potash: 8 percent.

C. At least 50 percent of phosphoric acid shall be from normal superphosphate or an equivalent source which will provide a minimum of two units of sulfur.

2.2 SOD

A. As specified in the Contract Documents.

2.3 MULCH

A. The mulch material shall be dry straw or hay, consisting of oat, rye, or wheat straw, or of pangola, peanut, coastal bermuda, or bahia grass, hay or compost; and shall be free from noxious weeds and plants.

B. Any plant officially listed as being noxious or undesirable by any Federal Agency, any agency of the State of Florida or any local jurisdiction in which the project is being constructed shall not be used. Furnish to the City Project Manager, prior to incorporation onto the project, a certification from the Florida Department of Agriculture and Consumer Services, Division of Plant Industry, stating that the Mulch materials are free of noxious weeds. Any such noxious plant or plant part found to be delivered as mulch will be removed by the Contractor at his expense and in accordance with the law.

C. Only undeteriorated mulch which can readily be cut into the soil shall be used. 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.

2.4 SOIL TACKIFIER

A. Derived from natural organic plant sources containing no growth or germination-inhibiting materials.

B. Capable of hydrating in water, and readily blend with other slurry materials.

C. Wood Cellulose Fiber: Add as tracer, at rate of 150 pounds per acre.

2.5 EROSION CONTROL MATTING

A. Excelsior mat or straw blanket; staples as recommended by matting manufacturer.

2.6 REINFORCED PLASTIC COVERING

A. Co-extruded, copolymer laminate reinforced with a nonwoven grid of high strength nylon cord submersed in a permanently flexible adhesive media allowingfor equal tear resistance in all directions.

B. Black in color and ultraviolet stabilized.

C. Physical Requirement (Minimum Average Roll Values):

a. Tear Strength: 130 pounds.

b. Elongation: 620 percent.

c. Minimum Thickness: 6 mil.

2.7 SILT FENCE

A. Support Posts: As recommended by manufacturer of geotextile.

B. Fasteners: Heavy-duty wire staples at least 1-inch long, tie wires, or hog rings, as recommended by manufacturer of geotextile.

C. Filter Fabric: Polyester, polypropylene, or nylon filaments, woven into a uniform pattern, distinct and measurable openings.

a. Filaments: Resistant to damage from exposure to ultraviolet rays and heat.

b. Material Edges: Finish so that, filaments retain their relative positions under stress.

D. In accordance with requirements of Table No. 1:

Table No. 1 - Filter Fabric		
Physical Property	Required Value	Test Method
Weight, lbs/sq yd, min.	4	ASTM D3776
Equivalent Opening Size, max.	50-70	U.S. Standard Sieve
Grab Tensile Strength, lb, min. ARV	400	ASTM D4632
Elongation, % max.	25	ASTM D1682
Mullen Burst Strength, psi, min. ARV	200	ASTM D3786
Ultraviolet Radiation Resistance, % Strength Retention	80	ASTM D4355
Flow Rate, gpm/sf, min. ARV	30 to 50	ASTM D4491

2.8 STRAW BALES

A. Machine baled clean salt hay or straw of oats, wheat, barley, or rye, free from seed of noxious weeds, using standard baling wire or string.

2.9 POSTS FOR STRAW BALES

A. Two-inch by 2-inch untreated wood, rebar, or commercially manufactured metal posts.

2.10 STABILIZED CONSTRUCTION ENTRANCES

A. Clean pit run or 2 inches minus gravel.

B. Subgrade geotextiles as specified in the Contract Documents.

2.11 DUST CONTROLLER

A. Nontoxic materials that do not have an adverse effect on soil structure or establishment and growth of vegetation.

a. Calcium chloride meeting the meeting the requirements of AASHTO M144.

b. Water; reasonably clean and shall be free from suspended water.

2.12 FILTER FABRIC

A. All existing and newly constructed storm drainage structures onsite or adjacent to the site shall be protected with two (2) layers of non-woven filter secured beneath the frame and grate.

B. Filter Fabric shall meet the requirements of Type D-3 meeting the FDOT specifications Section 985.

2.13 FLOATING/STACKED TURBIDITY CURTAINS

A. Curtains shall be minimum 18-ounce nylon reinforced PVC fabric (300 psi Test).

B. Curtains are five (5') standard height and shall reach the bottom for depths up to ten (10') feet of water.

C. Turbidity barriers are required on all outfalls located within the site or adjacent to the site. Location of turbidity barriers will be as approved by City Project Manager.

PART 3 EXECUTION

3.1 GENERAL

A. Erosion control measures are required during all construction and sitedisturbance activities and shall remain until permanent site ground covers are in-place.

B. Limitation of Exposure of Erodible Earth: The City Project Manager may limit the surface areas of unprotected erodible earth exposed by the construction operation and may direct the Contractor to provide erosion or pollution control measures to prevent contamination of any river, stream, lake, tidal waters, reservoir, canal, or other water impoundments, or to prevent detrimental effects on property outside the project right-of-way or damage to Project. Limit the areain which excavation and filling operations are being performed so that it does not exceed the capacity to keep the finish grading, grassing, sodding, and other suchpermanent erosion control measures current in accordance with the accepted schedule.

C. Do not allow the surface area of erodible earth that clearing and grubbing operations or excavation and filling operations expose to exceed 750,000 ft^2

without specific prior approval by the City Project Manager. This limitation applies separately to clearing and grubbing operations and excavation and filling operation.

D. The City Project Manager may increase or decrease the amount of surface area the Contractor may expose at any one time.

E. The implementation of the erosion control plan and the construction maintenance, replacement and upgrading the erosion control devices are the responsibility of the Contractor until all construction is completed and landscaping established and approved. During the construction period, the erosion control devices shall be upgraded for unexpected storm events and to ensure that sediment and sediment laden water do not leave the site.

F. Maintain existing buffer zones adjacent to Project Limits. Keep all construction equipment, debris, and soils out of the natural buffer zone.

3.2 STABILIZED CONSTRUCTION ENTRANCES

A. Provide a graveled construction access at each access point between the site and any public or private road or other paved surfaces.

B. Place subgrade geotextile on the ground prior to aggregate placement.

C. Place aggregate over the subgrade geotextile to a minimum thickness of8 inches.

D. Minimum dimensions for stabilized construction entrances are 50 feet in length by 20 feet in width.

3.3 SOIL PREPARATION

A. Before start of sodding, and after surface has been shaped and graded, and lightly compacted to uniform grade, scarify soil surface to minimum depth of 1 inch.

3.4 SODDING

A. As specified in the Contract Documents.

3.5 MULCHING

A. Apply uniformly on disturbed areas that will remain undisturbed for 7 days or more, as requested by City Project Manager, and on all sodded areas.

B. Application: Sufficiently loose to permit penetration of sunlight and air circulation, and sufficiently dense to shade ground, reduce evaporation rate, and prevent or materially reduce erosion of underlying soil.

a. As recommended by manufacturer.

3.6 SOIL TACKIFIER

A. Spray on after mulch is in place.

B. The soil tackifier shall be applied at the rate per acre specified by manufacturer for applicable grades.

3.7 REINFORCED PLASTIC COVERING

A. Place on areas where sodding and erosion control matting have not controlled erosion, and over all temporary stockpiles.

B. Install in single thickness, strips parallel to direction of drainage. Anchor plastic in 6-inch by 6-inch trench backfilled with compacted native material.

C. Maintain tightly in place by using sandbags on ropes with a maximum 10-foot grid spacing in all directions.

D. Tape or weight down full length, overlap seams at least 12 inches.

E. Remove at final acceptance unless notified otherwise by City ProjectManager.

3.8 SILT FENCE

A. Install prior to starting earth disturbing activities upslope of fence.

B. Install silt fence along contour where shown on the Drawings. Do not deviate from grade more than 4 inches.

C. One-piece filter fabric or continuously sewn to make one-piece filter fabric for full height of the fence, including portion buried in the toe trench.

D. When joints are necessary, splice filter fabric together only at a support post, with a minimum 6-inch overlap, and securely fasten both ends to support post.

E. Filter fabric shall not extend more than 30 inches above the ground surface. Securely fasten to upslope side of each support post using ties. Filter fabric shall not be stapled to existing trees.

F. Take precaution not to puncture filter fabric during installation. Repair or replace damaged area.

G. Remove silt fence after upslope area has been permanently stabilized. Immediately dress sediment deposits remaining after the sediment fence has been removed to conform to existing grade. Prepare and sod graded area.

3.9 TEMPORARY SOIL STOCKPILES

A. Cover with reinforced plastic covering, as directed in Article Reinforced Plastic Covering.

B. Protect perimeter of stockpile from erosion with ditches.

3.10 DUST CONTROL

A. Apply appropriate dust control measures on a continuous basis until permanent stabilization measures are in place.

B. Apply on construction routes and other disturbed areas subject to surface dust movement and where off-site damage may occur if dust is not controlled.

C. Avoid creating erosion when using water as a dust controller.

3.11 STRAW BALES

A. Embed minimum of 4 inches in flat-bottomed trench.

B. Place with ends tightly abutting or overlapped. Corner abutment is not acceptable.

C. Install so that bale bindings are oriented around the sides and not over the top and bottom of the bale.

D. Use two posts for each bale. Drive posts through the bale until top of post is flush with top of bale and post is 1-1/2 feet to 2 feet in the ground.

E. Wedge loose straws in any gaps between bales.

3.12 EROSION CONTROL MATTING

A. Place on sodded slopes 3H to 1V, and steeper.

B. Apply sod and fertilizer prior to matting.

C. At top of slope, entrench material in 6-inch by 6-inch trench. Secure matting at1 foot intervals down the slope. At the bottom of the slope, extend the mat 2 feet beyond the toe of slope, turn material under 4 inches, and staple at 1 footintervals.

D. Mats shall be stapled in-place as they are installed down the slope face. The mats shall have direct contact with the soil surface.

E. Overlap:

a. Lengthwise: 1 foot minimum.

b. Crosswise: 6 inches minimum.

3.13 CLEANUP

A. Sediment trapped in erosion control devices shall be removed from the site or regraded into the slopes on the site. Do not flush sediment-laden water into drainage system.

B. After site restoration is complete and when approved by the City Project Manager, all temporary erosion control measures shall be completely removedand disposed offsite to locations that are approved by federal, state, and local authorities.

C. Silt fence, straw bales, reinforced plastic covering, and any other erosion control devices shall be disposed offsite to locations that are approved by federal, state, and local authorities.

END OF SECTION

SECTION 02481 - TREE RELOCATION AND PROTECTION

PART 1 GENERAL

1.1 WORK TO BE PERFORMED AND WORK INCLUDED

A. Prepare and relocate trees and palms designated for relocation within the project boundaries, to include all aspects of preparation, relocation, protection, and maintenance.

B. Protection and care of existing trees and palms to remain within the project boundaries, to include all aspects of protection, pruning, fertilization, and watering.

C. Watering by water truck.

D. Follow up maintenance as required by these Specifications.

E. Labor, materials, equipment, and services to complete all preparation, relocations and protection work as shown on the Drawings, as specified herein, or both.

1.2 SUBMITTALS

A. Verification of Qualifications: The Contractor shall provide a list of references and project list of a minimum of 5 projects that the Contractor has successfully completed that are similar in scope and nature.

B. List of all equipment to be utilized during tree preparation and transplanting.

C. Literature on specified wetting agents, fertilizers, and soil conditioners.

1.3 APPLICABLE STANDARDS AND SPECIFICATIONS

A. Comply with the following standards and specifications for all materials, methods, and workmanship unless otherwise noted:

a. Codes and Standards of the American Association of Nurserymen.

b. Codes and Standards of the National Arborists Association.

c. Codes and Standards of the International Society of Arboriculturists.

1.4 PERMITS

A. The Contractor shall secure and pay for any permits, including tree relocation permits, required in order to complete the work under this Section.

1.5 DESCRIPTION

A. Trees to be relocated within the project area will be specifically designated in the field as project work progresses.

B. Existing trees to be relocated shall be crown pruned and be treated with soil amendments prior to relocation.

C. Existing trees to be relocated or to remain shall be protected with barricades during construction. Trees or shrubs to remain which are scarred or destroyed shall be replaced at the direction of the City Forester with the same species, size, and quality at no cost to the City.

D. Tree pits resulting from relocated material shall be backfilled with clean fill and brought flush with surrounding grade.

1.6 GUARANTEES

A. The Contractor Shall Guarantee His Work in the Following Way:

a. Any tree or palm that dies or is deemed in unacceptable condition for one year following final project acceptance shall be removed by the Contractor, including root ball, and backfilling of pit, at no cost to the Owner.

b. The Contractor shall provide a comparable specimen at no additional cost to the City.

c. The guarantee shall be enforced if it is deemed by the City Forester that tree mortality or decline is a product of negligence by the Contractor.

PART 2 PRODUCTS

2.1 SOIL AMENDMENTS

A. Root stimulant shall be Roots Biostimulant, concentrate or powder, as manufactured by LISA Products Corp., (305) 797-6801, or City-approved equal. Stimulant shall be applied either as a wash, or by injection, mixed per manufacturer's recommendation.

B. Soil conditioner shall be Lesco Wet, as manufactured by Lesco, Inc. or NoburN, as manufactured by Roots or City-approved equal.

C. Minor element liquid fertilizer mix shall be Micro Mix liquid as produced by Lesco, Inc., or equal; to be diluted at a rate of 1 gallon per 100 gallons of water and applied at a rate of 50 gallons per 1,000 square feet of canopy, or Iron Roots, applied per manufacturer's instructions.

D. Time Release Fertilizer tablets shall be Agriform, 15 grams, designation 8-8-8; or approved equal.

2.2 EQUIPMENT

A. Soil amendments shall be injected into the soil by means of a spray apparatus utilizing mechanical agitation to keep powdered amendments suspended.

B. Root pruning equipment shall be designed for this task and shall produce clean cuts of roots without damage to the resulting root ball.

C. Relocation equipment shall be capable of lifting and transporting trees without damage.

2.3 SOIL

A. Soil to be placed once trees or palms are transplanted shall meet the requirements specified in the Contract Documents.

2.4 WATER

A. Water shall be clean and potable, from municipal Fort Lauderdale source, or from onsite wells.

2.5 MULCH

A. Grade A Eucalyptus mulch as supplied by Action Nursery Products, Inc., Fort Myers, Florida, 1-800-433-2050, or approved equal, and shall be free of viable weed seeds.

2.6 BRACING AND STAKES

A. All bracing and stakes shall be pressure treated pine. Compression bands shall be stainless steel.

PART 3 EXECUTION

3.1 Excavating near existing Trees

A. Maintain a minimum 6-foot clearance from all tree trucks except palm trees.

B. Use a 24-inch minimum depth saw cut in pavement or dirt/gravel roadway before start of excavation in areas where there are large trees close to the construction area. No coating application is required after saw cutting roots.

3.2 PREPARATION FOR RELOCATION OF TREES AND PALMS WITHIN THE PROJECT BOUNDARIES

A. Crown Pruning: All trees and palms shall be crown pruned prior to relocation.

a. Broadleaf Trees:

i. All trees are to be trimmed by thinning the crown only, and not by reducing crown dimensions. Trim to conform to NAA Standards, including removal of dead wood.

ii. Repair any existing injuries to trees including cavities and machinery marks.

b. Palms:

i. Remove all fruits and seed pods, and all but the 7 youngestfronds.

ii. Tie all remaining fronds with untreated cotton twine or burlapstraps.

B. Fertilization and Watering:

a. Preparation: Clear the root ball area of all foreign material, trash, etc., to expose undisturbed soil.

b. Application/Schedule:

i. Trees shall be deep injection fertilized a minimum of 14 days prior to relocation. Specified liquid fertilizer shall be used and applied at the concentration and application rates stated herein.

ii. Mix wetting agent, biostimulant, and minor element mix to produce a single fluid with each component included at the specified concentration. Inject into the root zone within the limits of proposed root ball at the rate of 50 gallons fluid per 1,000 square feet of tree canopy, using only approved spray equipment.

iii. Form an earth berm 6 inches high outside the proposed root ball prior to watering. Water application shall saturate the root ball to its entire depth.

C. Root Pruning:

a. Technique:

i. All trees shall be excavated by digging a trench a minimum of 36 inches deep by 6 inches wide, either by hand or with a trenching machine designed for this purpose. Provide continuous trenching around the tree or palm at a minimum distance of 30 inches from the trunk. Hand cut broadleaf tree roots after trenching to produce clean cuts with no splits or tears.

ii. Barricades: Barricade all root pruned trees and palms at outside of soil berm with minimum 4-foot chain link fence or other barricade approved by the City.

iii. Timing:

a. All oaks to be relocated shall be maintained for a minimum of 10 weeks after root pruning prior to relocation.

b. Palms shall be maintained a minimum of 4 weeks prior to relocation.

3.3 RELOCATION OF TREES AND PALMS

A. General: Trees to be relocated shall be as directed by the Engineer.

B. Preparation:

a. Trees and palms shall be injected with soil amendments a minimum of 14 days prior to relocation. Apply at manufacturer's recommended concentration and application rates.

b. Trees and palms shall be thoroughly soaked to the full depth of the root ball daily for 7 consecutive days prior to relocation.

c. Accurately locate position and elevation where all trees are intended to be planted, for verification by City Forester. Verify that no overhead or underground utilities, existing or proposed, conflict with proposedlocations.

d. Ascertain that all proposed paths for machinery are clear of utilities and other obstructions.

C. Excavation of Tree Pits: Dig all pits with vertical sides and flat bottom. Existing soil may be utilized as backfill as directed by the City Forester. All Tree Pits to be lined with root barrier adjacent to roadways and sidewalks as directed by City Project Manager.

D. Digging and Handling - Broadleaf Trees:

a. Notify City 2 business days in advance of each relocation to allow for observation of procedures.

b. Determine line of previous root pruning and excavate around root mass to leave area 12 inches out from line of root pruning undisturbed. Digging shall be accomplished so as to produce clean cuts on all roots without tearing or splitting. Trenching shall be a minimum of 36 inches deep.

c. Trees are to be handled in such a way as to avoid damage to bark and limbs subject to support cables or chains. Attach padded support cables

or chains at multiple points where possible. Alternatively, tree trunks may be drilled and doweled for broadleaf trees. The City Forester reserves the right to require doweling in lieu of lifting by straps.

d. Root balls are to be undercut prior to lifting. Do not force tree from ground prior to undercutting. Ball depth to be determined upon assessing conditions at time of trenching, to keep intact the entire root ball.

e. Trees shall be properly wrapped during moving so trunks will not be scarred and damaged and to avoid broken limbs. Broken limbs or scarredtrunks shall cause tree to be unacceptable and rejected at the City's option. Broken limbs and wounds which do not (in the judgment of the City Forester) cause the tree to be rejected shall be cleanly cut.

f. Transport plant material on vehicles of adequate size to prevent overcrowding, broken limbs, foliage damage or root ball damage.

g. Root balls and foliage shall be kept moist during all phases of relocation.

h. Partially backfill tree pits with 12 inches of approved planting soil prior to setting tree. This layer of soil to be thoroughly drenched prior to relocation to achieve a stable platform at the correct elevation so that the top of rootball is 1 inch above proposed grade.

i. Rotate tree prior to setting to achieve best positioning relative to adjacent trees and viewing angles.

E. Backfilling:

a. Flood bottom soil layer to settle tree into position and remove air pockets.

b. Continue to flood root ball as planting soil is deposited to ensure removal of all air pockets.

c. Create a saucer to retain water.

F. Bracing:

a. Support tree with machinery until bracing is complete.

b. Buttresses may support separate trunks on multiple trunk trees.

c. Maintain braces until completion of project. Removal of braces shall be by others.

G. Watering: Relocated trees shall be watered by water-truck once per day for the first 6 weeks, followed by 3 times per week for the following 6 weeks.

END OF SECTION

SECTION 02535 – STRUCTURES

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this section.

1.2 WORK INCLUDED

A. The work covered by this section shall include the furnishing of all labor, equipment, services, materials, products and tests to perform all operations in connection with the construction of all structures as shown on the plans, defined in these specifications and subject to the terms and conditions of this contract, including, but not limited to, manhole, catch basins, and inlets.

1.3 SUBMITTALS

A. The Contractor shall furnish the City Project Manager shop drawingsof the precast manholes and catch basins for approval. Shop drawings should illustrate all dimensions, reinforcements and specifications for the complete manual.

PART 2 PRODUCTS

2.1 MORTAR

A. Mortar for use in constructing and plastering drainage structures shall conform to ASTM C-270, "Specifications for Mortar for Unit Masonry". A Portland cement-hydrated lime mixture or a masonry cement may be used provided that the same materials are used throughout the project.

B. Mortar materials shall be proportioned by volume and shall consist of one part Type II Portland Cement to two parts aggregate (sand). Portland Cement shall conform to ASTM C-150, "Specifications for Portland Cement". Aggregate shall conform to ASTM C-144, "Specifications for Aggregate for Masonry Units."

2.2 PRECAST CONCRETE MANHOLE

A. Precast manhole sections shall conform to the plans or ASTM C-478, Specifications for Precast Reinforced Concrete Manhole Sections as modified thereto whichever is more restrictive. Concrete shall attain a minimum compressive strength of 4,000 psi at 28 days. Minimum wall thickness shall be eight (8”) inches.

B. Unless otherwise specified on the plans, all joints shall be made with neoprene or rubber "O" ring compression joints; mastic joint sealing compound, or approved equal. After assembly, all joints shall be filled with mortar and pointed to provide a smooth surface without joint voids.

C. The base and walls that compose the bottom section of precast manhole shall be of monolithic construction, minimum 8 inches thick, and the edge of the base slab shall project a minimum 4 inches beyond the outside diameter of the wall.

D. Holes for piping shall be 6 inches larger than the outside diameter of the respective pipe. After the pipe is set, the void space between the pipe and the hole perimeter shall be completely filled with non-shrinking, quick-setting, waterproof cement mortar and struck smooth.

E. The minimum height of precast base section shall be 36 inches from the bottom of the base slab; however, no holes for piping shall be cast less than 8 inches from the top of the base section or less than 2 inches from the top of the base slab.

2.3 ENDWALLS, CATCH BASINS, INLETS AND JUNCTIONS BOXES

A. Endwalls, catch basins, inlets and junction boxes shall be constructed at the locations shown and to the dimensions indicated on site plans. Unless otherwise specified on the plans, inlets, junction boxes, catch basins, and similar structures may be constructed of brick, concrete block, poured concrete or precast concrete. Precast catch basins shall conform to latest A.C.I. and P.C.A. specifications. Concrete shall have not less than 4,000 psi compressive strength at 28 days. Minimum wall thickness shall be six (6”) inches.

B. Unless otherwise specified on the plans, all concrete for these structures shall be Class I concrete as specified in the Florida Department of Transportation "Standard Specifications for Road and Bridge Construction", latest revision, Section 345. Mortar for use in constructing and plastering shall be as previously set forth in this section.

C. Brick shall be solid hard-burned clay conforming to ASTM Serial C-32-93, Grade SM. Concrete brick shall conform to ASTM Serial C-55-75, Grade P-I. Concrete block shall conform to ASTM Serial C-90-78, Grade PI.

D. All brick or concrete block structures covered in this Section shall be plastered inside and outside with 1/2 inch of cement mortar. Inside surfaces shall be smooth and even.

E. Base slabs and walls of concrete structures shall be constructed in a continuous pour between expansion joints.

F. For each grate type inlet, two layers of Mirafi 140 fabric of "Poly Filter X" polypropylene material or approved equal, shall be sandwiched between 2 x 2 x 10/10 welded wire fabric cut to the grate size and attached to the underside of the grate. The sandwiched filter material shall be wired to the cross members of the grate each way on 4-inch centers. After inlet construction and the roadway construction is completed and the project site work (including landscaping) has been established, the filter material and fabric shall be removed with any retained silt or sand.

2.4 CASTINGS (INCLUDING FRAMES, COVERS AND GRATINGS)

A. Iron castings shall conform to ASTM A-48, "Specifications for Gray Iron Castings", and shall be Class 30. Frames and grates may be Class 20.

B. All castings shall be made of clean, even grain, tough grey cast iron. The castings shall be smooth, true to pattern and free from projections, san holes, warp and other defects. The horizontal surface of the frame cover seats and the under surface of the frame cover seat which rests upon the cover seat shall be machined. After machining, it shall not be possible to rock any after it has been seated in any position in its associated frame. Machining shall be required only on those frames and covers intended for vehicular traffic.

C. Bearing surfaces between cast frames, covers and grates shall be machined and fitted together to assure a true and even fit. Within areas of vehicular traffic, the frames, covers and gratings shall be machined-ground so that irregularity of contact will be reduced to a minimum and will be rattle-proof.

D. All manhole covers shall be provided with concealed pick holes. Manufacturer's name and catalog number shall be cast on all frames, covers, grates, etc. Covers shall be lettered "Storm" "Storm Drain" or "Storm Sewer" or "Sanitary Sewer" as applicable and shall be plainly visible. The manhole frames and covers shall be flush with finished grade. Sanitary Sewer manhole covers shall bear the City logo as manufactured by US Foundry or approved equal.

E. Grates and covers for inlets shall be as shown on the plans, set to the grades indicated and conforming with the requirements of the castings described above. Grates shall be furnished complete with frames specifically constructed to provide full bearing at all points of contract.

PART 3 EXECUTION

3.1 CHANNELS

A. Channels shall be accurately and smoothly formed in accordance with the plans. Channels shall be constructed of concrete with trowel finished surfaces. The upper surface of the manhole shall be sloped toward the channels as shown.

B. Drop pipe at sanitary sewer manhole shall be installed when the difference in elevation between the pipe invert and the invert at the center of the manhole exceeds two feet (2'), or where directed by the City Project Manager. Thedrop manhole shall be built according to the plans and specifications.

C. After channels are formed and section joints are pointed, the interior of the manhole shall be painted with two coats of Koppers Bitumastic 300-M (7 mils per coat) or approved equal. The exterior shall be painted in a similar manner, if required by local regulations.

3.2 CONCRETE GRADE RINGS

A. All concrete grade rings shall meet ASTM C478 and shall be a minimum 4,000 psi @ 28 days. Concrete grade rings shall be a minimum thickness of 2 inches and a maximum thickness of 6 inches. No more than 8 inches of concrete grade rings shall be installed on one manhole. Concrete grade rings shall be laid in mortar and all joints shall be finished smooth and not be less than ¼ inch or morethan ½ inch in thickness. Concrete grade rings shall be painted with two coats ofKoppers Bitumastic 300-M (7 mils per coat) or approved equal.

3.3 MANHOLE AND STRUCTURES

A. All joints shall be finished water tight, all openings for sewers, frames, etc., in precast manhole and catch basins shall be cast at time of manufacture. Spaces around all piping entering or leaving manhole shall be completely filled with Embeco mortar or equal.

B. All manhole shall be set plumb to line and grade and shall rest on a firm carefully graded subgrade which shall provide uniform bearing under base.

C. Grout for manhole bottoms shall consist of broken block, brick and 2:1 cement mortar.

3.4 CLEANING AND MAINTENANCE

A. All structures shall be cleaned and maintained in workable condition until accepted by the City Project Manager.

END OF SECTION

SECTION 02575 – SURFACE RESTORATION

PART 1 GENERAL

1.1 STANDARD SPECIFICATIONS

A. When referenced in this Section, Standard Specifications shall mean Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, current edition.

1.2 INTENT

A. Specific surface restoration requirements are detailed in this and other sections.

B. For pipeline projects, the intent of these Specifications and the criteria of the Measurement and Payment Section is that the roadway, adjacent Right-of-Way, and properties affected by construction activity shall be returned to their pre-existing condition, unless otherwise indicated by these Contract Documents.

a. For pipelines constructed in the Right-of-Way between the sidewalk and edge of pavement, the ground surface will be graded into a swale as shown on the Drawings and provided with sod.

i. Argentine Bahia sod will be used for areas without irrigation systems, except where St. Augustine turf existed previously.

ii. St. Augustine “Floritam” sod will be used for areas with irrigation systems and in locations with similar, existing turf.

iii. Seashore Paspalum sod will be used in areas prone to salt water flooding, Driveways and sidewalks will be placed in kind, using similar materials of construction.

b. Trees, shrubs, and personal property (e.g. mail boxes) located in the swale area shall be relocated or replaced in kind, in accordance with the provisions of the Contract Documents.

C. For work areas disturbed by the Contractor for convenience, the area affected shall be restored in kind.

a. The costs of this restoration shall be incidental to the cost of the Work.

b. Payment for restoration outside the limits of work shall be repaired at the Contractor’s expense.

1.3 WORK INCLUDED

A. This Section covers the Work necessary to replace all pavement, curbs, sidewalks, rock surfacing, and other street features damaged either directly or indirectly by the operations incidental to the construction described in othersections of the Contract Documents.

B. Where the materials, construction procedures, degree of compaction ofmaterials, and the method of control and testing, as required in the Contract Documents differ from the Standard Specifications requirements, the more stringent requirements shall apply.

C. The intent of the Drawings is to provide a full lane, permanent trench repair for all work crossing or running parallel with roadways. Temporary restoration to provide a passable surface is also required.

D. Overlay of asphalt pavement may be required as shown on the Drawings.

E. Provide finished gradation and grassing in accordance with the Contract Documents.

1.4 OPTIMUM MOISTURE CONTENT

A. "Optimum moisture content" shall be determined by the ASTM standard specified to determine the maximum dry density for relative compaction.

1.5 TEMPORARY TRENCH REPAIR OR STABILIZATION

A. Following pipe installation and prior to permanent trench repair or asphalt replacement, temporary trench repair will be defined as one of the following:

a. Installation of flowable fill as described in this Section and the Contract Documents.

b. Installation of the compacted base course and an asphalt prime coat as described in this Section and the Contract Documents.

B. Temporary trench repair shall be maintained in accordance with the requirements of this Section and the Contract Documents until the final trench repair or asphalt surface is installed to provide a dust-free, drivable, and safe roadway surface.

PART 2 PRODUCTS

2.1 GENERAL

A. All materials for replacement of existing base course and asphalt surfacing shall conform to the Standard Specifications except as modified herein.

B. The Contractor will be responsible for furnishing satisfactory materials that meet the specifications of the Contract Documents and shall provide such tests during the course of the Work as are necessary to assure that the quality of the material used meets the specifications of the Contract Documents.

2.2 LIME ROCK BASE COURSE

A. Aggregate quality and gradation shall meet the requirements of the Standard Specifications.

2.3 BITUMINOUS PRIME AND TACK COAT

A. Prime Coat: Material shall be cutback asphalt, Grade RC-70 or RC-250 meeting the requirements of the Standard Specifications, or approved equal.

B. Tack Coat: Material shall be emulsified asphalt, Grade RS-2, SS-1, or SS-1H meeting the requirements of the Standard Specifications.

C. Tack coats used for temporary trench stabilization shall be sanded to prevent damage to vehicles.

2.4 ASPHALT CONCRETE

A. The asphalt concrete for trench leveling, restoration and overlay shall be Type SP-9.5, meeting the requirements of the Standard Specifications and the Contract Documents.

B. Aggregate: The aggregate shall meet the requirements of the Standard Specifications.

C. Submit test results from commercial testing laboratories to the City Project Manager to show that the materials meet the quality and gradation requirements.

2.5 CONCRETE PAVERS

A. Pavers shall be placed on approved restored base and subgrade with a 1” layer of bedding sand meeting the requirements of the Standard Specifications.

2.6 FLOWABLE FILL

A. Provide flowable fill with a mix design meeting the requirements of the FDOT Standard Specifications for excavatable, flowable fill. Flowable fill may be allowed as a substitute for compacted base upon approval of the Engineer,at no additional cost.

2.7 CONCRETE

A. Concrete shall be 3,000 psi minimum concrete meeting the requirements of the Standard Specifications.

B. Concrete Forms: All forms for curbs and sidewalks shall be either 2-inch dimensioned lumber, plywood, or metal forms. Forms on the face of the curb shall have no horizontal form joints within 7 inches of the top of the curb.

C. Curing Compound: Meeting the requirements of the Standard Specifications.

D. Reinforcing Steel: Conform to ASTM A615, Grade 60.

2.8 TRAFFIC MARKINGS

A. All traffic striping markings (i.e., lane, edge of pavement, directional, informational, etc.) damaged by the Contractor during construction shall be replaced with new markings meeting the requirements of the Broward County Traffic Engineering Division and the Standard Specifications.

B. Raised reflective pavement markers (rpm's) damaged by the Contractor during construction shall be replaced with new rpm's meeting the requirements of the Broward County Traffic Engineering Division and the Standard Specifications.

C. The Contractor shall place and maintain temporary striping markings throughout the course of the work until the permanent striping marking is placed on the final roadway surface.

D. The Contractor shall provide traffic stripping at all intersections including stopbars and crosswalks as required whether they are currently stripped or not. It shall be the Contractor's responsibility to take a complete inventory and provide the appropriate permanent stripping after the completion of the Work.

2.9 SWALE STABILZATION

A. Materials used for stabilization of swale areas as indicated on the Drawings shall consist of suitable excess existing base material removed from trenching operations, if approved by the Engineer, crushed limerock, rock screenings, or other suitable material as approved by the Engineer.

a. Materials having a plasticity index of more than 10, or a liquid limit greater than 40 shall not be used.

b. Maximum dimension shall not exceed 1.5 inches.

PART 3 EXECUTION

3.1 CONSTRUCTION PROCEDURE

A. The City Project Manager reserves the right to vary the type of resurfacing as best serves the interest of the Owner. Trench backfill shall be as specified in the Contract Documents.

B. Replace all bituminous and concrete roadway pavement damaged or removed under this Contract with asphalt concrete regardless of original type. Pavement thickness shall be in accordance with the Drawings.

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

municipal specifications.

D. Water to control dust shall be used as directed by the City Project Manager until the trench repair has been stabilized. If control of dust is inadequate by these means, the City Project Manager may direct the immediate application of a prime or tack coat in accordance with the provisions ofthis Section, at no additional cost to the Owner. The City Project Manager reserves the right to delay additional excavation activities until dust control measures are adequate.

E. Base course and prime coat shall be installed to provide temporary trench stabilization within 5 working days of trench backfill or as soon thereafter as the as-built conditions and pipe slopes have been verified.

F. Final, permanent trench repair, and paving shall be installed within 3 weeks of pipe verification and temporary trench stabilization, unless flowable fill is used for temporary trench repair, in accordance with the provisions of this Section.

3.2 REMOVAL OF PAVEMENT, SIDEWALK, CURBS, AND GUTTERS

A. Removal of all pavement, sidewalks, curbs, and gutters shall conform to the Contract Documents, and payment for removal shall be included in that Section of the Contract Documents. Payment for removal is incidental to the cost of pipe installation except where required for water and sewer service installation.

3.3 CUTTING EXISTING PAVEMENT

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

3.4 STREET MAINTENANCE

A. Maintain all trenches as specified in this section and the Contract Documents.

3.5 CONSTRUCTION OF BASE COURSE

A. Base course shall be constructed in accordance with the City of Fort Lauderdale Standards and the Standard Specifications.

B. Compact base materials to a minimum of 98 percent of the maximum density as determined by AASHTO T180. Corrections for oversize material may be applied to either the as-compacted field dry density or the maximum dry density, as determined by the Engineer. Where the base is constructed in more than one course, the density shall be obtained in each lift.

C. Alternately, and with the approval of the Engineer, the Contractor shall provide a minimum 10 inches of excavatable, flowable fill. The flowable fill shall be placed up to 1 ½ inches from the top of the existing pavement or to the fill line

without vibration or compaction. Flowable fill shall not be placed during periods of inclement weather and rainfall. Provide a means to confine the material within the designated space. Flowable fill installed in accordance with this provision shall comply with temporary pavement restoration provisions.

3.6 MILLING OR GRINDING OF EXISTING ASPHALT PAVEMENT

A. Milling of existing asphalt pavement shall meet the requirements of the Standard Specifications.

B. Milling shall be used to lower the grade of adjacent existing asphalt prior to trench repair to completely remove existing asphalt.

C. Milled and ground asphalt can be mixed for use with the limerock base course material.

3.7 BITUMINOUS PRIME AND TACK COAT

A. The bituminous prime coat shall be applied to the lime rock base immediately following the placement of the compacted base course. The prime coat shall be maintained with additional coats as determined by the City Project Manager as temporary restoration until the final asphalt surface is installed. Additional prime coats will be provided at no cost to the Owner.

B. The lime rock base shall be hard planed with a blade grader immediately prior to the application of the prime coat.

C. The rate of application of the bituminous prime coat shall meet the requirements of the Standard Specifications.

D. The bituminous tack coat shall be applied to existing asphalt surfaces prior to the placement of new asphalt, between layers of asphalt concrete surface courses, surfaces of concrete footings that will come in contact with the asphalt concrete pavement, and vertical faces of all longitudinal and transverse joints that have become compacted or cooled.

E. The rate of application for the bituminous tack coat shall meet the requirements of the Standard Specifications.

3.8 ASPHALT CONCRETE PAVEMENT REPLACEMENT

A. Preparation for Paving:

a. A prime coat shall be applied over the full length of the roadway, and asphalt concrete pavement shall not be placed until the prime coat has cured as per the manufacturer's recommendations.

b. Should any holes, breaks, or irregularities develop in the roadway surface after the prime coat has been applied, they shall be patched with asphalt concrete immediately in advance of placing the asphalt concrete.

c. After the maintenance, patching, or repair work has been completed and immediately prior to placing the asphalt concrete pavement, the surface of the prime coat shall be swept clean of all dirt, dust, or other foreign matter.

B. The proposed pavement reconstruction schedule consists of immediately paving over trenches as soon as possible after it has been determined that subbase and base have achieved required compactions. The base course will be brought up to the elevations indicated on the Drawings and asphalt placed to bring grade up to match existing pavement elevations as shown on the Drawings.

C. For deep excavations where the pavement repair constitutes a full lane or roadway, workmanship shall conform to the standards and details of new road way construction.

a. Existing pavement more than 2 feet wide beyond the trench area shall be left in place and a full overlay applied to the limits of the existing road width.

b. Existing base beyond the trench area shall be left in place.

c. Full lane or width roadways shall have a consistent cross-section and straight edge of pavement delineation's.

3.9 CONSTRUCTION OF ASPHALT CONCRETE PAVEMENT OVERLAY – IF REQUIRED

A. The Contractor shall place a layer of tack coat at a rate of 0.05 to 0.12 gallon per square yard over all areas to receive asphalt concrete.

B. Lay asphalt concrete over all areas designated to be resurfaced. The asphalt concrete pavement overlay shall be placed in minimum 1-inch lift and maximum lift as shown in the Contract Documents. The method of proportioning, mixing, transporting, laying, processing, rolling the material, and the standards of workmanship shall meet the applicable requirements of the Standard Specifications. At no time shall the coarse aggregate segregated from the mix either from hand spreading or raking of joints be scattered across the paved mat. Such material shall be collected and disposed of.

C. The City Project Manager will examine the prepared roadway before the paving is begun and bring any deficiencies to the Contractor's attention to be corrected before the paving is started. Roll each lift of the asphalt concrete until roller marks are eliminated and compacted to 100 percent of the laboratory compacted mixture. The grade, line, and cross section of the finished surface shall conform to the Drawings. Asphalt or asphalt stains which are noticeable upon surfaces of concrete or materials which will be exposed to view shall be promptly and completely removed.

3.10 ASPHALT CONCRETE PAVEMENT

A. Workmanship in producing, hauling, placing, compacting, and finishing asphalt

concrete shall meet the applicable portions of the Standard Specifications.

3.11 CONNECTIONS WITH EXISTING FACILITIES

A. Where the bituminous pavement is to be connected with an existing roadway surface or other facility, the Contractor will be required to modify the existing roadway profile in such a manner as to produce a smooth riding connection to the existing facility. The Contractor shall meet existing neat lines where required.

B. Where it is necessary to remove existing asphalt surfaces or oil mat surfaces to provide proper meet lines and riding surfaces, the Contractor shall sawcut the existing surface so that there will be sufficient depth to provide a minimum of 1-inch of asphalt concrete, and the waste material shall be disposed of to the satisfaction of the Engineer. Prior to placing the asphalt concrete, these areas shall be tacked. Meet lines shall be straight and the edges vertical. The edges of meet line cuts shall be painted with liquid asphalt or emulsified asphalt prior to placing asphalt concrete. After placing the asphalt concrete, the meet lineshall be sealed by painting with a liquid asphalt or emulsified asphalt and immediately covered with clean, dry sand.

3.12 CONSTRUCTION OF COURSES

A. The asphalt concrete pavement shall be constructed in one or more courses as shown on the Drawings.

B. Rolling shall continue until all roller marks are eliminated and compacted to 100 percent of the laboratory compacted mixture has been obtained.

3.13 SURFACE TOLERANCE

A. Tests for conformity with the specified grade shall be made by the Contractor immediately after initial compression. Any variation shall be immediately corrected by the removal or addition of materials and by continuous rolling.

B. The completed surface of the pavement shall be of uniform texture, smooth, uniform as to grade, and free from defects of all kinds. The completed surface shall not vary more than 1/8 inch from the lower edge of a 12-foot straightedge placed on the surface along the centerline or across the trench.

C. After completion of the final rolling, the smoothness and grade of the surface shall again be tested by the Contractor.

D. When deviations in excess of the above tolerances are found, the pavement surface shall be corrected as stated in the Standard Specifications.

E. All areas in which the surface of the completed pavement deviates more than twice the allowable tolerances described above shall be removed and replaced tothe satisfaction of the Engineer.

F. All costs involved in making the corrections of defects described above shall be borne by the Contractor and no compensation will be made for this Work.

3.14 SAMPLES

A. If directed by the Engineer, the Contractor shall without additional charge, provide the City Project Manager with test results of samples of asphalt concrete cut from the completed pavement or the individual courses thereof for each occurrence. Provide a minimum of three test cores located as directed by the Engineer. He shall also provide the City Project Manager with test results of samples of the uncompressed asphalt concrete mixtures and all materials incorporated in the Work.

3.15 WEATHER CONDITIONS

A. Asphalt shall not be applied to wet material. Asphalt shall not be applied during rainfall or any imminent storms that might adversely affect the construction. The City Project Manager will determine when surfaces and materials are dry enough to proceed with construction. Asphalt concrete shall not be placed duringheavy rainfall or when the surface upon which it is to be placed is wet.

3.16 PROTECTION OF STRUCTURES AND ADJUSTMENT OF APPURTENANCES

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

B. Where water valve boxes, manholes, catch basins, or other underground utility appurtenances are within the area to be surfaced, the Contractor shall adjust the tops of these facilities to conform with the proposed surface elevations. The Contractor shall notify the proper authority and either raise or lower the appurtenances or make arrangements with that authority for having the facilities altered at the Contractor's expense before proceeding with the resurfacing. The Contractor will be responsible for making certain that appurtenances are brought to proper grade to conform with finished surface elevations and any delays experienced from such obstructions will be considered as incidental to the paving operation. No additional payment will be made. Protect all covers during asphalt application. All adjustments shall be made in accordance with the requirements of the respective utility.

C. To extend manhole use grade rings as specified, do not use leveling rings. Remove the frame and cover, rebuild the manhole top to raise it so that the new height meets the overlay elevations and then replace the frame and cover in accordance with the Contract Documents.

3.17 EXCESS MATERIALS

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

3.18 CONTRACTOR'S RESPONSIBILITY

A. Settlement of replaced pavement over trenches within the warranty period shall be considered the result of improper or inadequate compaction of the subbase orbase materials. The Contractor shall promptly repair all pavement deficiencies noted during the warranty period at the Contractor's sole expense.

3.19 SIDEWALKS AND CURBS

A. Replace concrete sidewalks and curbs to the same section width, depth, line, and grade as that removed or damaged or as shown on the Drawings. The minimum thickness of sidewalks shall be 6 inches. Cut ends of existing curb to a vertical plane. Prior to replacing the sections, properly backfill and compact the trench to prevent subsequent settlement.

B. Replace concrete sidewalks at scored joints and make replacement in a manner that will avoid a patched appearance. Provide a minimum 2-inch thick compacted leveling course of clean sand or gravel of quality hereinbefore specified. Finish concrete surface similar to the adjacent sidewalks. All curbs and all gutters shall have a minimum of 4” LBR 100 limerock “curb pad”.

3.20 DRIVEWAYS AND WALKS

A. Replace asphalt driveways and walks in accordance with Paragraph Asphalt Concrete Pavement Replacement.

B. Replace concrete and paver driveways in kind, using similar materials of construction. Concrete driveways shall consist of a reinforced, 6-inch section installed in accordance with the Contract Documents.

3.21 TRAFFIC STRIPES

A. All areas having traffic stripes prior to paving shall be restriped. Temporary traffic striping shall be applied immediately after asphalt pavement has been placed. Permanent traffic striping may be applied only after the proper curing time for the asphalt. Traffic stripes (temporary and permanent) shall meet the requirements of Broward County Traffic Engineering Division Standards and the Standard Specifications.

3.22 INSTALLATION OF RAISED REFLECTIVE PAVEMENT MARKERS

A. All areas having raised reflective pavement markers prior to paving shall have those markers replaced. Temporary pavement markers shall be applied immediately after asphalt pavement has been placed. Permanent pavement markers may be applied only after the proper curing time for the asphalt. Pavement markers and adhesive (temporary and permanent) shall meet the requirements of Broward County Traffic Engineering Division and the Standard Specifications.

B. Spacing: As shown in the Roadway and Traffic Design Standards for Design, Construction, Maintenance and Utility operations on the State Highway System by the State of Florida, Department of Transportation, current edition and the Broward County Traffic Engineering Division Standards.

3.23 PAVEMENT REPAIR

A. All damage to pavement as a result of work under this Contract shall be repaired in a manner satisfactory to the City Project Manager and at no additional cost to the Owner. The repair shall include preparation of the subgrade, placing and compaction of the lime rock base and placement of the final asphalt surface as described in this Section.

B. The width of all repairs shall extend at least 12 inches beyond the limit of the damage with the edge of pavement left saw cut to a true edge with no irregularities. For county roads and City streets recently constructed or overlaid, the repair may be required to be full-lane width as shown on the Drawings.

3.24 SWALE RESTORATION

A. New or existing swale areas (areas between pavement edge and sidewalks, or right-of-way line if there is no existing or proposed sidewalk) shall be graded and reshaped to the cross section shown on the Drawings. Where storm inlets are present, the swale shall have a consistent longitudinal slope towards the inlet.

B. Swale areas with previously existing improved surfaces, including but not limited to asphalt, concrete, pavers, crushed or decorative rock, shall be restored in kind. Asphalt paved areas shall be constructed with a minimum 6-inch stabilized subbase and minimum 6-inch compacted limerock base, primed and topped with minimum 1-inch asphalt.

C. Swale areas with previously unimproved or turfed surfaces will be restored with soil stabilization where existing natural soil will not support vehicle loads normally imposed by movement and parking of heavy vehicles without rutting and shifting of soil. Subject to the approval of the Engineer, this work may be performed in connection with preparation of subgrade or construction of the limerock base course.

D. Swale areas with previously unimproved or turfed surfaces will be topped with sod. St. Augustine “Floritam” and two inches of topsoil shall be used in irrigated areas and where St. Augustine sod was previously established. Bahia sod shall be placed in all other areas not previously improved or sodded.

3.25 SWALE STABILIZATION

A. Where swale stabilization is required as indicated above, stabilization shall be achieved by the addition and mixing in of suitable stabilizing materials. It shall be incorporated into the existing swale soils by plowing, disking, harrowing, blading or mixing with rotary tillers or other appropriate equipment approved by the Engineer, until the mixed materials are of uniform bearing value throughout

the width and at least 6-inch depth from the top of the swale after the swale is graded and shaped to the section indicated on the plans.

B. The swale areas shall be mixed and compacted to achieve a minimum average dry density of 90 percent throughout the 6-inch thickness, as determined by AASHTO T180. In the determination of such average, the minimum acceptable density shall be 85 percent and the maximum density which shall be used in calculations shall be 100 percent (if the tested density is reported above 100 percent).

C. Density tests for swale stabilization shall be made at intervals not less than one set of three per City block on each side of the roadway, or at increased intervals as directed by the City Project Manager when required to measure small or isolated sections (except where such testing may be considered unnecessary by the Engineer). Each set of three shall be averaged as indicated above for determination of meeting the minimum requirements.

3.26 SPECIAL SWALE REPAIR

A. Certain swale areas (designated on Drawings) have longitudinal trench filled with ballast rock for drainage. If appropriate, a separate pay item applies for removal and reconstruction of ballast rock drainage damaged during installation of pipelines. All other aspects of restoration work in the swale will be paid for separately under the restoration item. Swale stabilization will not be required in those areas with ballast rock drainage.

3.27 BRICK OR PAVER RESTORATION

A. Remove and salvage bricks or paver materials to be disturbed by the work. Payment will be made in accordance with the unit price for these items.

B. Restore pavers and apron area shall be constructed as shown in the Drawings. Payment will be made in accordance with the unit price for these items.

C. Paver and apron areas shall be constructed as shown in the Drawings.

D. If brick and paver materials are damaged, new materials shall match or all materials within the crossing must be replaced at no additional cost. New materials shall be approved by the Owner.

END OF SECTION

SECTION 02630 – STORM DRAINAGE FACILITIES

PART 1 GENERAL

1.1 SUMMARY

A. Work under this section shall consist of providing all labor, plant facilities, materials, tools, equipment, shop drawings and supervision necessary and required to install all of the storm drainage facilities, including piping, fittings, structures, bedding, and backfilling, as specified in accordance with the contract documents.

1.2 WORK INCLUDED

A. Provide all labor, materials, necessary equipment and services to complete the Storm Drainage Facilities work, as indicated on the drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".

1.3 REFERENCE STANDARDS

A. American Society For Testing and Materials (ASTM)

a. A185 – Steel Welded Wire Fabric, Plain, for Concrete Reinforcement

b. A615 – Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

c. A760 – Corrugated Steel Pipe, Metallic-Coated for Sewers and Drains

d. A798 – Installation of Corrugated-Steel Pipe for Sewers and Other Applications

e. A929 – Metallic-Coated by the Hot-Dip Process for Corrugated Steel Pipe

f. C76 – Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe

g. C478 – Precast Reinforced Concrete Manhole Sections

h. C1479 – Installation of Reinforced Concrete Pipe

i. C990-01A – Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants

j. D2321 – Installation of Thermoplastic Pipe for Sewer/Gravity-Flow Applications

k. D3034 – Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings

l. D3212 – Joints for Drain and Sewer Plastic Pipes Using Elastomeric Seals

m. F477 – Elastomeric Seals (Gaskets) for Joining Plastic Pipe

n. F794 – Poly(Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter

o. F949 – Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings

B. American Association of State Highway and Transportation Officials (AASHTO)

a. M198 – Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets

b. M252 – Corrugated Polyethylene Drainage Tubing

c. M274 – Aluminum-Coated (Type 2), for Corrugated Steel Pipe

d. M294 – Corrugated Polyehtylene Pipe. 12 to 14 inch Diameter

e. M36 – Metallic Coated Corrugated Steel Culverts and Underdrains

f. M190 – Bituminous Coated Corrugated Metal Culvert Pipe and PipeArches

g. M199 – Standard Specification for Precast Reinforced Concrete Manhole Sections

C. American Water Works Association (AWWA)

a. C110 – Ductile-Iron and Gray-Iron Fittings, 3 in through 48 in (75 mm through 1200 mm), for Water and Other Liquids (revision of ANSI/AWWA C110/A21.10-93)

b. C111 – Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings

c. C151 – Ductile-Iron Pipe, Centrifugally Cast, for Water

D. American Concrete Institute (ACI)

a. 301 – Structural Concrete for Buildings, Specifications for

b. 318 – Building Code Requirements for Structural Plain Concrete

1.4 CLEARING

A. Clearing or installation of pipe and all drainage structures shall be confined within the working limits of the trenches. Trees, utility poles, survey monuments, underground and overhead utilities shall be suitably protected and preserved.

1.5 EXISTING UTILITIES

A. Furnish temporary support, adequate protection and maintenance of all underground and surface utility structures, drains, sewers, cables, etc., and other obstructions encountered in the progress of the work.

B. When the grade of alignment of the pipe is obstructed by existing utility structures, such as conduits, ducts, pipes, branch connections to water or sewer mains, and other obstructions, the obstructions shall be permanently supported, relocated, removed or reconstructed by the Contractor in cooperation with the owners of such structures. No deviation shall be made from the required line or grade except as directed in writing by the City Project Manager.

C. It shall be the responsibility of the Contractor to notify the owners of existingutilities in the area of construction a minimum of 48 hours prior to any excavation adjacent of such utilities, so that field locations of said utilities may be established.

D. Temporary relocation of existing utilities (to be removed) to accommodate installation of storm drain pipe shall be the responsibility of the Contractor and approved by the City Project Manager. No additional payment shall be made for temporary relocation of existing utilities and shall be considered part of the bid item for the pipe.

1.6 PROJECT RECORD DOCUMENTS

A. Accurately record as-built locations of pipe runs, connections, catch basins, cleanouts, top elevations and invert elevations.

B. Identify and describe unexpected variations of subsurface conditions and location of any utilities encountered.

1.7 QUALITY ASSURANCE

A. All costs related to re-inspection due to failures shall be paid for by the Contractor at no additional expense to the Owner. Owner reserves the right to direct any inspection that is deemed necessary. Contractor shall provide free access to site for inspection activities.

PART 2 PRODUCTS

2.1 PIPE

A. Solid reinforced concrete pipe:

a. Concrete pipe shall be produced by a reputable manufacturer engaged in the full time business of manufacturing concrete pipe. Pipe manufacturer shall produce the pipe from an approved, permanent plant acceptable to the City Project Manager.

b. All concrete pipe shall be reinforced and shall conform to the requirements of ASTM C-76. "Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe". All pipe shall be a minimum of Class III. Pipe shall have an interior surface which is smooth, uniform and free from rough spots, irregularities and projections. Nominal pipe lengths shall be 8' unless authorized otherwise by the City Project Manager. Lifting holes will be permitted, one hole per length.

c. Concrete pipe may be either bell and spigot, tongue and groove or modified tongue and groove.

d. Internal rubber gasket joints shall be used. The internal rubber gasket joint shall be supplied by the pipe manufacturer and shall be completely compatible in every respect with the pipe furnished. The rubber gasket on the inside of the bell or groove shall be installed on the pipe at the plant by the pipe manufacturer. All materials and accessories for the rubber gasket joint and the methods of jointing shall be in strict conformance with the pipe manufacturer's direction and recommendation. Joint must be completely water tight.

e. Cement grout joints shall be completely water tight and acceptable to the City Project Manager. A full bed of mortar shall be placed in the bell and/or groove and on the tongue and/or spigot. The annular space in the pipe joint shall be wiped with cement mortar to insure the joint is filled and to present a smooth surface. The complete exterior periphery of the joint shall have a standard cement grout diaper joint. Diaper shall be installed with the aid of an approved cloth ring. Cement mortar joints shall be made in the dry. Mortar and grout shall be one part Portland Cement to two parts by weight of sand. Mortar shall have enough water to make a stiff mixture that can be molded and worked. Cement mortar joints shall not be covered until inspected and approved by the City Project Manager.

B. Slotted reinforced concrete pipe:

a. Concrete pipe shall be produced by a reputable manufacturer engaged in the full time business of manufacturing concrete pipe. Pipe manufacturer shall produce the pipe from an approved, permanent plant acceptable to the City Project Manager.

b. All concrete pipe shall be reinforced and shall conform to the requirements of ASTM C-444. "Perforated Concrete Pipe" and City of FortLauderdale Standards for “Slotted RCP”. All pipe shall be a minimum of Class III. Pipe shall have an interior surface which is smooth, uniformand free from rough spots, irregularities and projections. Nominal pipe lengths shall be 8' unless authorized otherwise by the City Project Manager. Lifting holes will be permitted, one hole per length.

c. Concrete pipe may be either bell and spigot, tongue and groove or modified tongue and groove.

d. Internal rubber gasket joints shall be used. The internal rubber gasket joint shall be supplied by the pipe manufacturer and shall be completely compatible in every respect with the pipe furnished. The rubber gasket on the inside of the bell or groove shall be installed on the pipe at the plant by the pipe manufacturer. All materials and accessories for the rubber gasket joint and the methods of jointing shall be in strict conformance with the pipe manufacturer's direction and recommendation.Joint must be completely water tight.

e. Cement grout joints shall be completely water tight and acceptable to the City Project Manager. A full bed of mortar shall be placed in the bell and/or groove and on the tongue and/or spigot. The annular space in the pipe joint shall be wiped with cement mortar to insure the joint is filled and to present a smooth surface. The complete exterior periphery of the joint shall have a standard cement grout diaper joint. Diaper shall be installed with the aid of an approved cloth ring. Cement mortar joints shall be made in the dry. Mortar and grout shall be one part Portland Cement to two parts by weight of sand. Mortar shall have enough water to make a stiff mixture that can be molded and worked. Cement mortar joints shall not be covered until inspected and approved by the City Project Manager.

PART 3 EXECUTION

3.1 GENERAL

A. Contractor shall only use the pipe material as specified on the plans. Alternate materials will not be allowed unless approved by the City Project Manager in writing.

B. The Contractor shall install all drainage structures and pipe in the locations shown on the drawings and/or as approved by the Owner. Pipe shall be of the type and sizes specified on the drawings and shall be laid accurately to line and grade. Structures shall be accurately located and properly oriented.

C. Excavation and Backfilling for Utilities – The provisions of the Contract Documents for Excavation and Backfilling shall govern all work under this Section.

D. Storage and Handling of Pipe – All pipe shall be protected against impact, shock and free fall, and only equipment of sufficient capacity and proper design shall be used in the handling of the pipe. Storage of pipe on the job shall be in accordance with the pipe manufacturer’s recommendations.

E. Damage to Pipe

a. Pipe which is defective from any cause, including damage caused by handling, and determined by the Owner as unrepairable, shall be

unacceptable for installation and shall be replaced at no cost to theOwner and as directed by the Owner; and,

b. Pipe that is damaged or disturbed through any cause prior to acceptance of the work, shall be repaired realigned or replaced as directed by the Owner, at the Contractor's expense.

F. Manholes, catch basins and drain inlets shall be constructed as soon as the pipe laying reaches the location of the structures. Should the Contractor continue his pipe laying without making provisions for completion of the structures, the Owner shall have the authority to stop the pipe laying operationsuntil the structure is completed.

G. Any structure, which is mislocated or oriented improperly, shall be removed and re-built in its proper location, alignment and orientation at the Contractor's expense.

3.2 EXCAVATIONS

A. Trenches shall be kept as nearly vertical as possible and, if required, shall be properly sheeted and braced. Where, in the opinion of the City Project Manager, damage could result from withdrawing sheeting, the sheeting shallbe left in place. Not more than 100 feet of trench shall be opened at any one time or in advance of pipe laying unless permitted by the City ProjectManager.

a. Except in rock, water-bearing earth or where a granular or concrete base is to be used, mechanical excavation of trenches shall be stopped above the final grade elevation so that the pipe may be laid on a firm, undisturbed native earth bed. If overdigging occurs, all loosened earth shall be removed and the trench bottom brought back to grade with granular material.

b. Excavations and trenches in rock shall be carried to a depth of not less than 8 inches below the pipe bottom. This space shall be filled with granular material or washed rock.

c. Width of trenches shall be such as to provide adequate space for placing and jointing pipe properly, but in every case the trench shall be kept to a minimum width.

d. Any unstable soil encountered shall be removed and replaced with gravel, crushed rock or rock and sand suitably compacted.

3.3 PREPARATION TO TRENCH BOTTOM

A. Water shall not be allowed in the trenches while the trench bottom is being prepared or while pipe is being installed, unless directed by the City Project Manager.

B. A continuous trough shall be shaped to receive the bottom quadrant of the pipe barrel. Bell holes shall be excavated so that after placement, only the barrel of the pipe receives bearing pressure from the trench bottom.

C. Where unsuitable soil conditions are encountered, the trench bottom shall be excavated to a minimum of 8 inches below the proposed bottom of the pipe, and a trough as described above shall be formed with sharp sand or bedding rock to uniformly support the bottom quadrant of the pipe barrel.

3.4 BEDDING

A. Bedding material, when required, shall be in accordance with the Contract Documents.

3.5 PIPE INSTALLATION

A. Laying Pipe

a. Unloading and Handling: All pipes shall be unloaded and handled with reasonable care. Pipes shall not be rolled or dragged over gravel or rock during handling. The Contractor shall take necessary precautions toensure the method used in lifting or placing the pipe does not induce stress fatigue in the pipe and the lifting device used uniformly distributes the weight of the pipe along its axis or circumference.

b. Each length of pipe shall be inspected for defects and cracks before carefully lowered into the trench. Any damaged or any pipe that has had its grade disturbed after laying shall be removed and replaced.Bituminous coated pipe shall be handled with special care and repair of damaged coating shall conform with AASHTO M190.

c. Lay pipe on prepared foundation starting at the downgrade end according to line and grade with the necessary drainage structures, fittings, bends and appurtenances as shown on the drawings. Rigid pipes shall be laid with the bell or groove ends upgrade with the spigot or tongue fullyinserted. Reinforced concrete pipe shall be installed in accordance with ASTM C1479.

d. Pipe sections shall be firmly joined together with appropriate gaskets or bands.

e. Pipe shall be protected during handling against impact shocks and free falls. Pipe shall be kept clean at all times and no pipe shall be used that does not conform to the Specifications.

f. The laying of the pipe shall be commenced at the lowest point with spigot ends pointing in the direction of flow. All pipe shall be laid with ends abutting and true to line and grade. They shall be laid in accordance with manufacturer's requirements as approved by the City Project Manager.

g. Pipe shall be laid accurately to the line and grade as designated on the plans. Preparatory to making pipe joints, all surfaces of the portions of the pipe to be jointed, or of the factory made jointing material, shall be clean and dry. Lubricant, primers, adhesive, etc., shall be used as recommended by the pipe or joint manufacturer's specifications. The jointing materials or factory fabricated joints shall then be placed, fitted, joined and adjusted in such a manner as to obtain a water tight line. As soon as possible after the joint is made, sufficient backfill material shall beplaced along each side of the pipe to prevent movement of pipe off line and grade.

h. The exposed ends of all pipe shall be suitably plugged to prevent earth, water, or other substances from entering the pipe when construction is not in progress.

3.6 BACKFILLING TRENCHES

A. No trenches or excavations shall be backfilled until the trench and installation has been inspected and approval given by the City Project Manager. Under no circumstances shall water be permitted to rise in unbackfilled trenches after pipe has been placed. Trenches shall be backfilled with approved material, free of large clods, stones or rocks and carefully deposited in layers not to exceed 6 inches until enough fill has been placed to provide a cover of not less than 1 foot above the pipe. Each layer shall be placed, then carefully and uniformly tamped,so as to eliminate the possibility of pipe displacement. The remainder of backfill materials shall then be placed, moistened and compacted in 8 inch layers to 98%maximum AASHTO T-180 density.

B. Whenever the trenches have been improperly filled or if settlement occurs, they shall be refilled, compacted, smoothed off and made to conform to grade. Unless otherwise directed or shown on the plans, backfill in trenches in orthrough roadways shall be made as specified above, except that the entire fill above 1 foot over the pipe shall be deposited in layers not to exceed 8 inches in thickness, moistened, and compacted to density equal to or greater than that of adjacent material so that pavement can be placed immediately.

3.7 CONCRETE ENCASEMENT OF DRAINAGE PIPE

A. Trenches in which encasement for pipe are to be placed may be excavated completely with mechanical equipment. Prior to formation of the encasement, temporary supports consisting of timber wedges or masonry shall be used to support the pipe in place. Temporary supports shall have minimum dimensions and shall support the pipe at no more than two places, one at the bottom of the barrel of the pipe adjacent to the shoulder of the socket and the other near the spigot end.

3.8 DRAINAGE STRUCTURES

A. All structures shall be built to the line and grade shown on drawings. All

reinforced concrete work shall be in strict conformance with the concrete specifications contained herein. After erection of the forms and placing of the steel, the Contractor must have inspection and approval from the City Project Manager before placing any concrete. After removal of the forms, the Contractor shall backfill around each structure with approved granular fill. The fill shall be placed in layers not exceeding 8 inches in depth measured loose and compacted to 98% of the maximum density as determined by the modified proctor, AASHTO T-180. No defects of any kind in the pipe section will be accepted. All pipe stubs shall be made of the same type of pipe. Pipe stubs shall be sealed with a concrete plug, water tight. The ends of the pipes which enter masonry shall be neatly cut to fit the inner face of the masonry. Cutting shall be done before the pipes are built in.

3.9 RESTORATION OF SURFACES AND/OR STRUCTURES

A. The Contractor shall restore and/or replace paving, curbing, sidewalks,fences and survey points, or any other disturbed surfaces or structures to a condition equal to that before the work was begun and to the satisfaction of the City Project Manager. Relative to restoration of surfaces and/or structures, the Contractor shall comply with all requirements of governing agencies including city, town, county and state.

3.10 PROTECTION AND CLEANING

A. The Contractor shall maintain all pipe installations and drainage structuresin a condition such that they will function continuously and shall be kept clean of silt, debris and other foreign matter from the pipe and drainage structure is installed until the project is accepted.

3.11 FINAL INSPECTION

A. All storm sewers shall be lamped by the City Project Manager prior to acceptance of the work. Repairs or misalignment shown necessary by the tests shall be corrected at the Contractor's expense. All sewers shall be thoroughly cleaned before being placed into use and shall be kept clean until final acceptance by the City Project Manager.

B. Upon completion of the work and before final acceptance by the Owner, the entire drainage system shall be subject to a final inspection in the presence ofthe Owner and/or City Project Manager. The work shall not be considered as complete until all requirements for line, grade, cleanliness, and workmanship have been completed.

END OF SECTION

SECTION 02631 – EXFILTRATION TRENCH DRAINS

PART 1 GENERAL

1.1 RELATED DOCUMENTS

A. All applicable provisions of the Bidding and Contract Requirements, and Division 1 - General Requirements shall govern the work under this section.

1.2 WORK INCLUDED

A. Provide all labor, materials, necessary equipment and services to complete the Exfiltration Trench System work, as indicated on the Drawings, as specified herein or both, except as for items specifically indicated as "NIC ITEMS".

1.3 EXISTING UTILITIES

A. Locate and stake all existing underground utilities that may be in the area of the drainage system.

1.4 SUBMITTALS

A. Submit Plan Drawings showing the locations of all piping and underground utilities that may be in conflict with the Drainage System.

B. Submit samples of the 3/4" washed rock (ASTM No. 5) for approval.

C. Submit samples and product data of filter fabric.

PART 2 PRODUCTS

2.1 DRAINAGE PIPE AND BALLAST ROCK

A. Drainage pipe shall be in conformance with material as specified in Contract Documents and have the maximum number of perforations allowable per the manufacturer’s recommendations.

B. Ballast rock shall be No.4 Coarse Aggregate, washed free of deleterious matter.

C. Trench liner shall be non-woven filter fabric.

2.2 FILTER FABRIC

A. Filter fabric shall subsurface drainage type per FDT Section 985. All filter fabric joints shall lap a minimum of 2 feet.

B. Minimum Characteristics:

Mechanical Properties	Test Method	Unit	Minimum Average Roll Value	
			MD	CD
Grab Tensile Strength	ASTM D4632	lbs (N)	100 (445)	100 (445)
Grab Tensile Elongation	ASTM D4632	%	50	50
Trapezoid Tear Strength	ASTM D4533	lbs (N)	45 (200)	45 (200)
CBR Puncture Strength	ASTM D6241	lbs (N)	250 (1113)	
			Maximum Opening Size	
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	70 (0.212)	
			Minimum Roll Value	
Permittivity	ASTM D4491	sec^{-1}	2.0	
Flow Rate	ASTM D4491	$gal/min/ft^2$ ($l/min/m^2$)	140 (5704)	
			Minimum Test Value	
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	70	

Physical Properties	Unit	Roll Sizes	
Roll Dimensions (width x length)	ft (m)	12.5 x 360 (3.8 x 110)	15 x 360 (4.57 x 110)
Roll Area	yd^2 (m^2)	500 (418)	600 (502)

PART 3 EXECUTION

3.1 INSTALLATION

A. Lay out Exfiltration Trench System as shown on the Plans.

B. The bottom of the trench shall provide a minimum of 12” if ballast rock below the drain pipe.

C. Drain pipe shall terminate a minimum of two feet beyond the end of the trench or connect to a catch basin as required.

D. Cover temporary pipe ends with No. 10 galvanized or aluminum screen with openings no larger than ½” x ½”.

E. Bottom, sides and top of trench to be lined with trench lining material with a minimum of 2 feet of overlap at the top of the trench.

F. A minimum of 4 feet of solid drain pipe shall be installed between drainage structures and the beginning of the trench.

G. Concrete pipe shall be places with the slots on the sides of the pipe equal distance from the plumb line.

3.2 CLEANUP

A. Remove all excess rock, liner and pipe from the site.

END OF SECTION

SECTION 02710 – LIMEROCK BASE

PART 1 GENERAL

1.1 DEFINITIONS

A. Completed Course: Compacted, unyielding, free from irregularities, with smooth, tight, even surface, true to grade, line, and cross section.

B. Completed Lift: Compacted with uniform surface reasonably true to cross-section.

PART 2 PRODUCTS

2.1 LIMEROCK BASE ROCK

A. The material used in limerock base shall be material classified as Miami Oolite Formation.

B. The minimum of carbonates of calcium and magnesium in the limerock shall be 70 percent. The maximum percentage of water-sensitive clay material shall be 3.

C. Limerock material shall be uniform in color and not contain cherty or other extremely hard pieces, or lumps, balls, or pockets of sand or clay size material in sufficient quantities as to be detrimental to the proper bonding, finishing, or strength of the limerock base.

D. The limerock base shall be uniformly graded from coarse to fine with 97 percent passing a 3-1/2-inch sieve, 80 percent passing a 2-inch sieve. The fine material shall consist entirely of dust of fracture. All crushing or breaking up, which might be necessary in order to meet such size requirements, shall be done before the material is placed on the road.

E. Physical Qualities:

a. Liquid Limit, AASHTO T89: Maximum 35 percent.

b. Nonplastic.

c. Limerock material shall have an average limerock bearing ratio (LBR) value of not less than 100.

2.2 SOURCE QUALITY CONTROL

A. Contractor: Perform tests necessary to locate acceptable source of materials meeting specified requirements.

B. Final approval of aggregate material will be based on materials' test results on installed materials.

C. Should separation of coarse from fine materials occur during processing or stockpiling, immediately change methods of handling materials to correct uniformity in grading.

PART 3 EXECUTION

3.1 SUBGRADE PREPARATION

A. As specified in the Contract Documents.

B. Obtain Engineer's acceptance of subgrade before placement of limerock base rock.

C. Do not place base materials on soft, muddy subgrade.

3.2 EQUIPMENT

A. Use mechanical rock spreaders, equipped with a device that strikes off the rock uniformly to laying thickness, capable of producing even distribution. For areas where the use of a mechanical spreader is not practicable, the Contractor may spread the rock using bulldozers or blade graders.

3.3 HAULING AND SPREADING

A. Hauling Materials:

a. The limerock shall be transported to the point where it is to be used and dumped on the end of the preceding spread.

b. Do not haul over surfacing in process of construction.

c. Loads: Of uniform capacity.

d. Maintain consistent gradation of material delivered; loads of widely varying gradations will be cause for rejection.

B. Spreading Materials:

a. Distribute material to provide required density, depth, grade and dimensions with allowance for subsequent lifts.

b. Produce even distribution of material upon roadway without segregation.

c. Should segregation of coarse from fine materials occur during placing, immediately change methods of handling materials to correct uniformity in grading.

3.4 CONSTRUCTION OF COURSES

A. General: Complete each lift in advance of laying succeeding lift to provide

required results and adequate inspection.

B. Limerock Base:

a. Maximum Completed Lift Thickness: 6 inches or equal thickness.

b. Completed Course Total Thickness: As shown.

c. Spread lift on preceding course to required cross-section.

d. Lightly blade and roll surface until thoroughly compacted.

e. Blade or broom surface to maintain true line, grade, and cross-section.

C. Gravel Surfacing:

a. Maximum Completed Lift Thickness: 6 inches or equal thickness.

b. Completed Course Total Thickness: As shown.

c. Spread on preceding course in accordance with cross-section shown.

d. Blade lightly and roll surface until material is thoroughly compacted.

3.5 ROLLING AND COMPACTION

A. Commence compaction of each layer of base after spreading operations and continue until density of 98 percent of maximum density has been achieved as determined by AASHTO T 180.

B. Density tests will be conducted every 500 square yards or as directed by the City Project Manager.

C. Roll each course of surfacing until material shall not creep under roller before succeeding course of surfacing material is applied.

D. Commence rolling at outer edges of surfacing and continue toward center; do not roll center of road first.

E. When the material does not have the proper moisture content to ensure the required density, wet or dry, as required. When adding water, uniformly mix it in by disking to the full depth of the course that is being compacted. During wetting or drying operations, manipulate as a unit, the entire width and depth of the course that is being compacted.

F. Place and compact each lift to required density before succeeding lift is placed.

G. Bind up preceding course before placing leveling course. Remove floating or loose stone from surface.

H. Blade or otherwise work surfacing as necessary to maintain grade and cross-section at all times, and to keep surface smooth and thoroughly compacted.

I. Surface Defects: Remedy surface defects by loosening and rerolling. Rerollentire area, including surrounding surface, until thoroughly compacted.

J. Finished Surface: True to grade and crown before proceeding with surfacing.

3.6 SURFACE TOLERANCES

A. Finished Surface of Base Course and Leveling Course: Within plus or minus 0.04-foot of grade shown at any individual point.

B. Compacted Surface of Leveling Course: Within 0.04-foot from lower edge of 10-foot straightedge placed on finished surface, parallel to centerline.

C. Overall Average: Within plus or minus 0.01-foot from crown and grade specified.

3.7 DRIVEWAY RESURFACING

A. Replace gravel surfacing on driveways which were gravel surfaced prior to construction.

B. Provide compacted gravel surfacing to depth equal to original, but not less than 4 inches.

C. Leave each driveway in as good or better condition as it was before start of construction.

3.8 FIELD QUALITY CONTROL

A. In-Place Density Tests:

a. Construct base course so areas shall be ready for testing.

b. Allow reasonable length of time for City Project Manager toperform tests and obtain results during normal working hours.

3.9 CLEANING

A. Remove excess material; clean stockpile areas of aggregate.

END OF SECTION

SECTION 02761 - PAVEMENT MARKING

PART 1 GENERAL

1.1 STANDARD SPECIFICATIONS

A. When referenced in this section, Standard Specifications shall mean Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, current edition. All Pavement Markings and Signage shall conform to the Broward County Traffic Engineering Division Standards, latest revision.

1.2 SUBMITTALS

A. The Contractor shall submit its proposed formula for the asphaltic concrete paving for review in accordance with the Section entitled “Submittals”.

1.3 DELIVER, STORAGE, AND PROTECTION

A. Packaging and Labeling: All coatings and traffic marking materials shall be shipped in strong containers plainly marked with the weight in pounds per gallon, the volume of coatings and traffic marking materials content in gallons, the color, user information, date of manufacture, LOT, batch and DOT code number. Each batch manufactured shall have a unique number. A true statement of the percentage composition of the pigment, the proportion of pigment to vehicle, and the name and address of the manufacturer, also shall be shown. The label shall warn the user of any special handling or precautions of the material, as recommended by the manufacturer. Any package not so marked will not be accepted for use under these Specifications.

B. Storage: Any coatings and traffic marking materials which, although inspected and approved at the point of manufacture, hardens or livers in the containers so that it cannot be readily broken up with a paddle to a smooth, uniform painting consistency, will be rejected. All materials shall have a container storage life of one year from date of manufacture. Any coatings and traffic marking materialsnot acceptable for proper application will be rejected, even though it conforms to these Specifications in all other respects.

C. Mixing: All paints except aluminum shall be delivered to the project completely mixed, and ready to be used without additional oil or thinner. Gasoline shall not be used for thinner under any circumstances.

PART 2 PRODUCTS

2.1 PAINT

A. Color: White, yellow, or blue traffic striping meeting the requirements of Broward County Traffic Engineering Division and the Standard Specifications.

B. Homogeneous, easily stirred to smooth consistency, with no hard settlement or other objectionable characteristics during a storage period of 6 months.

2.2 THERMOPLASTIC STRIPING

A. White or yellow thermoplastic striping material meeting the requirements of Broward County Traffic Engineering Division and the Standard Specifications.

2.3 RAISED REFLECTIVE MARKERS

A. Metallic or nonmetallic, or prismatic reflector type, of permanent colors retaining color and brightness under action of traffic.

B. Rounded surfaces presenting a smooth contour to traffic. The minimum area of each reflective face shall be 2-1/2 inches squared.

C. Marker and adhesive epoxy in accordance with ASTM D4280

D. Markers shall meet the requirements of Broward County Traffic Engineering Division and the Standard Specifications.

2.4 GLASS SPHERES

A. Glass spheres shall be of a composition designed to be highly resistant to traffic wear and to the effects of weathering.

B. In accordance with AASHTO M247, Type I with moisture resistant coating or a formulation specified by the traffic striping material manufacturer and the Broward County Traffic Engineering Division and the Standard Specifications.

PART 3 EXECUTION

3.1 SURFACE PREPARATION

A. Cleaning:

a. Thoroughly clean surfaces to be marked before application of pavement marking material.

b. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water or a combination of these methods.

c. Completely remove rubber deposits, surface laitance, existing paint markings, and other coatings adhering to pavement with scrapers, wire brushes, sandblasting, approved chemicals, or mechanical abrasion.

d. Scrub areas of old pavement affected with oil or grease with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application.

e. Surfaces shall be completely free of dry dirt and ice, and dry of water at the time of application of any of the materials specified herein.

f. Oil-Soaked Areas: After cleaning, seal with cut shellac to prevent bleeding through the new paint.

g. Reclean surfaces when Work has been stopped due to rain.

h. Existing Pavement Markings:

i. Remove existing pavement markings that may interfere or conflict with newly applied marking patterns, or that may result in a misleading or confusing traffic pattern.

ii. Do not apply thermoplastic markings over existing preformed or thermoplastic markings.

iii. Perform grinding, scraping, sandblasting or other operations so finished pavement surface is not damaged.

B. Pretreatment for Early Striping: Where early striping is required on rigid pavements, pretreat with an aqueous solution containing 3 percent phosphoric acid and 2 percent zinc chloride.

C. New Concrete Pavement:

a. Allow a minimum cure time of 30 days before cleaning and marking.

b. Clean by either sandblasting or water blasting to the following results:

i. No visible evidence of curing compound on peaks of textured concrete surface.

ii. No heavy puddled deposits of curing compound in valleys of textured concrete surface.

iii. Remaining curing compound is intact, with loose and flaking material completely removed.

iv. Peaks of textured pavement surface are rounded in profile and free of sharp edges and irregularities.

D. Allow a minimum drying time of 24 hours after water blasting before applying thermoplastic markings.

3.2 ALIGNMENT FOR MARKINGS

A. The Contractor shall be responsible for all measurements, reference points and marks, string lining, and any other steps required in establishing pavement marking locations and alignment. On tangents and on curves up to 1 degree, the alignment of the marking shall not deviate from the string line by more than1 inch. On curves exceeding 1 degree, the maximum permissible deviation shall

be 2 inches. All alignment width and location shall conform to the details shown on the Drawings.

3.3 PAINT APPLICATION

A. General:

a. Thoroughly mix pigment and vehicle together prior to application, and keep thoroughly agitated during application.

b. Do not add thinner.

c. Apply only when air and pavement temperatures are above 40 degrees F and less than 95 degrees F. Maintain paint temperature within these same limits.

d. Apply only when surface is dry.

e. Do not apply when conditions are windy to the point of causing overspray or fuzzy line edges.

f. New Asphalt Pavement: Allow a minimum pavement cure time as recommended by the manufacturer before applying paint.

g. Provide guide lines and templates to control paint application.

h. Take special precautions in marking numbers, letters, and symbols.

i. Sharply outline edges of markings and apply without running or spattering.

B. Rate of Application:

a. Reflective Markings:

i. Paint: Apply evenly, 105 plus or minus 5 square feet per gallon.

ii. Glass Beads: Apply uniformly, 6 plus or minus 0.5 pounds of glass spheres per gallon of paint.

b. Nonreflective Markings: Apply paint evenly to pavement surface at a rate of 105 plus or minus 5 square feet per gallon.

c. On new pavement or new asphalt surface treatments, apply two coats of paint at a uniform rate of 210 square feet per gallon.

C. Drying:

a. Provide maximum drying time to prevent undue softening of bitumen and pickup, displacement, or discoloration by traffic.

b. If drying is abnormally slow, discontinue painting operations until cause is determined and corrected.

3.4 THERMOPLASTIC MARKING APPLICATION

A. Following specified surface preparation, prime and apply marking and glassbeads to provide a reflectorized strip as shown on Drawings.

B. The material shall be applied to the pavement by the extrusion method only, wherein one side of extrusion shaping die is the pavement and the other sides are formed by suitable equipment for heating and controlling the flow of the material.

C. Application Temperatures:

a. Pavement Surface: Minimum 40 degrees F and rising.

b. Thermoplastic: Minimum 375 degrees F, maximum 425 degrees F.

D. Primer:

a. On portland cement concrete and existing asphalt pavements, apply epoxy resin primer/sealer according to the thermoplastic manufacturer's recommendations.

b. All primer/sealer to dry prior to applying thermoplastic.

E. Thermoplastic Marking:

a. Extrude in a molten state, free of dirt or tint. at a thickness of 0.10 to 0.15 inch for lane lines and 0.07 to 0.10 inch for edge or other lines in accordance with FDOT Design Standards.

b. Apply centerline, skipline, edgeline, and other longitudinal type markings with a mobile applicator.

c. Apply special markings, crosswalks, stop bars, legends, arrows, and similar patterns with a portable, extrusion-type applicator.

F. Glass Bead Application:

a. Immediately after marker application, mechanically apply such that the beads are held by and imbedded in the surface of the molten material.

b. Application Rate: One pound per 20 square feet of compound.

G. Cool completed marking to ambient temperature prior to allowing vehicular traffic.

3.5 INSTALLATION OF RAISED REFLECTIVE MARKERS

A. Apply markers to the bonding surface using bituminous adhesives only.

B. Apply the adhesive to the binding surface (not the marker) so that 100 percent of the bonding area of the marker will be covered.

C. Align markers carefully, projecting no more than 3/4-inch above level of pavement. Reflective face of the marker shall be perpendicular to a line parallelto the roadway centerline. Do not install markers over longitudinal or transverse joints of the bonding surface.

D. Spacing: As shown on the Drawings.

E. Immediately remove excess adhesive from the bonding surface and exposed surface of the marker.

F. Use only a mineral spirits meeting Federal Specifications TT-T-291 to remove adhesive from exposed faces of markers.

3.6 GLASS BEAD APPLICATION

A. Apply immediately following application of paint.

B. Use evenly distributed, drop-on application method.

C. Rate: 10 pounds per gallon of paint.

3.7 PROTECTION

A. The Contractor shall erect adequate warning signs and/or provide sufficient number of flagmen, and take all necessary precautions for the protection of the materials and safety of the public.

B. Protect surfaces from disfiguration by paint spatters, splashes, spills, or drips.

3.8 CLEANUP

A. Remove paint spatters, splashes, spills, or drips from Work and staging areas and areas outside of the immediate Work area where spills occur.

END OF SECTION

SECTION 02771 – CONCRETE CURBS AND SIDEWALKS

PART 1 GENERAL (NOT USED)

PART 2 PRODUCTS

2.1 EXPANSION JOINT FILLER

A. 1/2-inch thick, preformed asphalt-impregnated, expansion joint material meeting AASHTO M153 Type I, II, or III, or AASHTO M213, or cellulose fiber types meeting the requirements of AASHTO M213, except the asphalt content is acceptable provided they contain minimum of 0.2 percent copper pentachlorophenate as a preservative and 1 percent water proofing wax.

2.2 CONCRETE

A. Ready-mixed meeting ASTM C94, Option A, with compressive strength of 3,000 psi at 28 days.

B. Maximum Aggregate Size: 1-1/2 inch.

C. Slump: 2 to 4 inches.

2.3 CURING COMPOUND

A. Liquid membrane-forming, clear or translucent, suitable for spray application and meeting ASTM C309, Type 1.

PART 3 EXECUTION

3.1 FORMWORK

A. Lumber Materials:

a. 2-inch dressed dimension lumber, or metal of equal strength, straight, free from defects that would impair appearance or structural quality of completed curb and sidewalk.

b. 1-inch dressed lumber or plywood may be used where short-radius forms are required.

B. Metals: Steel in new undamaged condition.

C. Setting Forms:

a. Construct forms to shape, lines, grades, and dimensions.

b. Stake securely in place.

D. Bracing:

a. Brace forms to prevent change of shape or movement resulting from placement.

b. Construct short-radius curved forms to exact radius.

E. Tolerances:

a. Do not vary tops of forms from gradeline more than 1/8 inch when checked with 10-foot straightedge.

b. Do not vary alignment of straight sections more than 1/8 inch in 10 feet.

3.2 PLACING CONCRETE

A. Excavate to the required depth, place and compact limerock base rock as specified in the Contract Documents. Compact directly under the area and 1 foot beyond each side of the sidewalk and curb.

B. Prior to placing concrete, remove water from excavation and debris and foreign material from forms.

C. Place concrete as soon as possible, and within 1-1/2 hours after adding cement to mix without segregation or loss of ingredients, and without splashing.

D. Place, process, finish, and cure concrete in accordance with applicable requirements of ACI 304, and this section. Wherever requirements differ, the more stringent shall govern.

E. To compact, vibrate until concrete becomes uniformly plastic.

F. All edges shall be smooth and rounded.

3.3 CURB CONSTRUCTION

A. Construct ramps at pedestrian crossings in compliance with FDOT and PROWAG minimum standards. Standards apply to work in the City's Rights of Way.

B. Expansion Joints: Place at maximum 20-foot intervals and at the beginning and end of curved portions of curb, and at connections to existing curbs. Install expansion joint filler at each joint.

C. Gutter minimum slope shall be 0.33% unless otherwise approved by the City Project Manager.

D. Curb Facing: Do not allow horizontal joints within 7 inches from top of curb.

E. All gutters and curb and gutters shall have a minimum 4" think limerock "curb pad" LBR 100.

F. Contraction Joints:

a. Maximum 10-foot intervals in curb.

b. Provide open joint type by inserting thin, oiled steel sheet vertically in fresh concrete to force coarse aggregate away from joint.

c. Insert steel sheet to full depth of curb.

d. Remove steel sheet with sawing motion after initial set has occurred in concrete and prior to removing front curb form.

e. Finish top of curb with steel trowel and finish edges with steel edging tool.

G. Front Face:

a. Remove front form and finish exposed surfaces when concrete has set sufficiently to support its own weight.

b. Finish formed face by rubbing with burlap sack or similar device to produce uniformly textured surface, free of form marks, honeycomb, and other defects.

c. Remove and replace defective concrete.

d. Apply curing compound to exposed surfaces of curb upon completion of finishing.

e. Continue curing for minimum of 5 days.

H. Backfill curb with earth upon completion of curing period, but not before 7 days has elapsed since placing concrete.

a. Backfill shall be free from rocks 2 inches and larger and other foreign material.

b. Compact backfill firmly.

3.4 SIDEWALK CONSTRUCTION

A. Thickness:

a. 6 inches.

B. Connection to Existing Sidewalk:

a. Remove old concrete back to an existing contraction joint.

b. Clean the surface.

c. Apply a neat cement paste immediately prior to placing new sidewalk.

C. Expansion Joints: Place at maximum 20-foot intervals, at adjacent curb expansion joint, where sidewalk ends at curb, and around posts, poles, or other objects penetrating sidewalk. Install expansion joint filler at each joint.

D. Contraction Joints:

a. Provide transversely to walks at locations opposite contraction joints in curb.

b. Dimensions: 3/16-inch by 1-inch weakened plane joints.

c. Construct straight and at right angles to surface of walk.

E. Finish:

a. Broom surface with fine-hair broom at right angles to length of walk and tool at edges, joints, and markings.

b. Ensure that the surface variations are not more than ¼ inch under a 10-foot straightedge, or more than 1/8 inch on a 5-foot transverse section.

c. Mark walks transversely at 5-foot intervals, or in pattern shown on Drawings, with jointing tool; finish edges with rounded steel edging tool.

d. Apply curing compound to exposed surfaces upon completion of finishing.

e. Protect sidewalk from damage and allow to cure for at least 7 days.

F. Curb Ramps:

a. All curb ramps and detectable warnings shall comply with the current FDOT Index 304 and the Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way by the United States Access Board.

END OF SECTION

SECTION 02772 - ASPHALT CONCRETE PAVEMENT

PART 1 GENERAL

1.1 Standard Specifications

A. When referenced in this Section, Standard Specifications shall mean Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, current edition.

1.2 QUALITY ASSURANCE

A. Qualifications:

a. Independent Testing Laboratory: In accordance with ASTM E329.

b. Asphalt concrete mix formula shall be prepared by an approved certified independent laboratory under the supervision of a certified asphalt technician.

1.3 SUBMITTALS

A. The Contractor shall submit its proposed formula for the asphaltic concrete paving for review in accordance with the Section entitled “Submittals”.

1.4 ENVIRONMENTAL REQUIREMENTS

A. Temperature: Do not apply asphalt materials or place asphalt mixes when ground temperature is lower than 10 degrees C (50 degrees F), or air temperature is lower than 4 degrees C (40 degrees F). Measure ground and air temperature in shaded areas away from heat sources or wet surfaces.

B. Moisture: Do not apply asphalt materials or place asphalt mixes when application surface is wet.

PART 2 PRODUCTS

2.1 MATERIALS

A. Prime Coat: Cut-back asphalt, Grades RC-70 or RC-250 meeting the requirements of the Standard Specifications.

B. Tack Coat: Emulsified asphalt, Grade RS-2, SS-1, or SS-1H meeting the requirements of the Standard Specifications. The bituminous material shall be heated to a suitable consistency as directed by the City Project Manager.

C. Sand (Blotter Material): Clean, dry, with 100 percent passing a 4.75 mm (No. 4) sieve, and a maximum of 10 percent passing a 75 mm (No. 200) sieve.

2.2 ASPHALT CONCRETE MIX

A. General:

a. Mix formula shall not be modified except with the written approval of City Project Manager.

b. Source Changes:

i. Should material source(s) change, establish a new asphalt concrete mix formula before the new material(s) is used.

ii. Perform check tests of properties of the plant-mix bituminous materials on the first day of production and as requested by City Project Manager to confirm that properties are in compliance with design criteria.

iii. Make adjustments in gradation or asphalt content as necessary to meet design criteria.

B. Asphalt Concrete: Type SP meeting the requirements of the Standard Specifications.

C. Composition: Hot-plant mix of aggregate, mineral filler, and paving grade asphalt cement. The several aggregate fractions shall be sized, uniformly graded, and combined in such proportions that the resulting mixture meets the grading requirements of the mix formula.

D. Aggregate:

a. The aggregate shall meet the requirements of the StandardSpecifications.

b. Mineral Filler shall meet the requirements of the Standard Specifications

E. Asphalt Cement: Paving Grade AC-30 meeting the requirements of the Standard Specifications.

PART 3 EXECUTION

3.1 GENERAL

A. Traffic Control: Minimize inconvenience to traffic, but keep vehicles off freshly treated or paved surfaces to avoid pickup and tracking of asphalt.

B. Driveways: Repave driveways from which pavement was removed. Leave driveways in as good or better condition than before start of construction.

3.2 LINE AND GRADE

A. Provide and maintain intermediate control of line and grade, independent of the underlying base to meet finish surface grades and minimum thickness.

B. Shoulders: Construct to line, grade, and cross-section shown.

3.3 PREPARATION

A. Prepare subgrade as specified in the Contract Documents.

B. Existing Roadway:

a. Modify profile by grinding, milling, or overlay methods as approved, to provide meet lines and surfaces and to produce a smooth riding connection to existing facility.

b. Resurface entire roadway following adjustment of base and asphalt grades.

c. Paint edges of meet line with tack coat prior to placing new pavement.

C. Thoroughly coat edges of contact surfaces (curbs, manhole frames) with emulsified asphalt or asphalt cement prior to laying new pavement. Prevent staining of adjacent surfaces.

3.4 PAVEMENT APPLICATION

A. General: Place asphalt concrete mixture on an approved, prepared base in conformance with this Section.

B. Cold Milling

a. Milling of existing asphalt pavement shall be at the depth and location as indicated on the Construction Drawings or as directed by the Owner.

b. The milled surface shall be reasonably smooth and free of excessive scarification marks, gouges, ridges, continuous grooves, or otherdamage. The milled pavement surface shall be thoroughly cleaned of all loose aggregate particles, dust, and other objectionable material by the use of power brooms, power blowers, power vacuums or other means.

c. The Contractor shall coordinate the adjustment of maintenance access structures, meter boxes, drainage inlets, and valve boxes with the milling operation.

d. All milled material shall become the property of the Contractor and shall be disposed of off-site or used in conformance with the Contract Documents, or for utilization as Reclaimed Asphalt Pavement, in conformance with the specification provided above, as approved by the Owner.

C. Prime Coat:

a. Heat cut-back asphalt between 100 degrees F and 150 degrees F prior to application.

b. Apply uniformly to clean, dry surfaces. Avoiding overlapping of applications.

c. Do not apply when moisture content of upper 3 inches of base exceeds optimum moisture content of base, or if free moisture is present.

d. Application Rate: Minimum 0.1 gallons per square yard of surface area.

e. Remove or redistribute excess material.

f. Allow a minimum of 5 full days for curing of primed surface before placing asphalt concrete.

D. Tack Coat:

a. Apply uniformly to clean, dry surfaces. Avoiding overlapping of applications.

b. Do not apply more tack coat than necessary for the day's paving operation.

c. Touch up missed or lightly coated surfaces and remove excess material.

d. Application Rate:

i. Minimum 0.05 gallons to maximum 0.12 gallons of asphalt (residual if diluted emulsified asphalt) per square yard of surface area.

ii. Apply at rate, within range specified, sufficient to assure good bonding, but not so heavy that surplus asphalt flushes into asphalt concrete being placed.

E. Pavement Mix:

a. Prior to Paving:

i. Sweep primed surface free of dirt, dust, or other foreign matter.

ii. Patch holes in primed surface with asphalt concrete pavement mix.

iii. Blot excess prime material with sand.

b. Place asphalt concrete pavement mix in lifts as shown.

c. Compacted Lift Thickness:

i. Minimum: Twice the maximum aggregate size, but in no case less than 1 inch. Minimum thickness for Type SP-9.5 is 1.0 inches.

ii. Maximum: 4 inches.

d. Total Compacted Thickness: Per Contract Documents.

e. Apply such that meet lines are straight and edges are vertical.

f. Collect and dispose of segregated aggregate from raking process. Do not scatter material over finished surface.

g. Joints:

i. Offset edge of each layer a minimum of 6 inches so joints are not directly over those in underlying layer.

ii. Offset longitudinal joints in roadway pavements, so longitudinal joints in wearing layer coincide with pavement centerlines and lane divider lines.

iii. Form transverse joints by cutting back on previous day's run to expose full vertical depth of layer.

h. Succeeding Lifts: Apply tack coat to pavement surface between each lift.

i. After placement of pavement, seal meet line by painting a minimum of 6 inches on each side of the joint with cut-back or emulsified asphalt. Cover immediately with sand.

F. Compaction:

a. Roll until roller marks are eliminated and compacted to 100 percent of the laboratory compacted mixture.

b. Joint Compaction:

i. Place top or wearing layer as continuously as possible.

ii. Pass roller over unprotected end of freshly laid mixture only when placing of mix is discontinued long enough to permit mixture to become chilled.

iii. Cut back previously compacted mixture when Work is resumed to produce a slightly beveled edge for full thickness of layer.

iv. Cut away waste material and lay new mix against fresh cut.

G. Tolerances:

a. General: Conduct measurements for conformity with crown and grade immediately after initial compression. Correct variations immediately by removal or addition of materials and by continuous rolling.

b. Completed Surface or Wearing Layer Smoothness:

i. Uniform texture, smooth, and uniform to crown and grade.

ii. Maximum Deviation: 1/8 inch from lower edge of a 12-foot straightedge, measured continuously parallel and at right angle to centerline.

iii. If surface of completed pavement deviates by more than twice the specified tolerances, remove and replace wearing surface.

c. Transverse Slope Maximum Deviation: ¼ inch in 12 feet from the rate of slope shown.

d. Finished Grade:

i. Perform a field differential level survey on a maximum 50-foot grid and along all grade breaks.

ii. Maximum Deviation: 0.02 foot from the grade shown.

H. Seal Coat:

a. General: Apply seal coat of paving grade or emulsified asphalt to finished surface at longitudinal and transverse joints, joints at abutting pavements, areas where the asphalt concrete was placed by hand, patched surfaces, and other areas as directed by the City Project Manager.

b. Preparation:

i. Maintain surfaces that are to be sealed free of holes, dry, and clean of dust and loose material.

ii. Seal in dry weather and when the temperature is above35 degrees F.

c. Application:

i. Fill cracks over 1/16 inch in width with an asphalt-sand slurry or approved crack sealer prior to sealing.

ii. When sealing patched surfaces and joints with existing pavements, extend minimum 6 inches beyond edges of patches.

3.5 PAVEMENT OVERLAY

A. Preparation:

a. Remove fatty asphalt, grease drippings, dust, and other deleterious matter.

b. Surface Depressions: Fill with asphalt concrete mix, and thoroughly compact.

c. Damaged Areas: Remove broken or deteriorated asphalt concrete and patch as specified in Article Patching.

d. Portland Cement Concrete Joints: Remove joint filler to minimum 1/2 inch below surface.

B. Application:

a. Tack Coat: As specified in this Section.

b. Place and compact asphalt concrete as specified in Article Pavement Application.

c. Place first layer to include widening of pavement and leveling of irregularities in the surface of the existing pavement.

d. When leveling irregular surfaces and raising low areas, the actual compacted thickness of any one lift shall not exceed 2 inches.

e. The actual compacted thickness of intermittent areas of 120 square yards or less may exceed 2 inches, but not 4 inches.

f. Final wearing layer shall be of uniform thickness, and meet grade and cross-section as shown.

3.6 PATCHING HOT MIX ASPHALT

A. Preparation:

a. Remove damaged, broken, or unsound asphalt concrete adjacent to patches. Trim to straight lines exposing smooth, sound, vertical edges.

b. Prepare patch subgrade as specified in the Contract Documents.

B. Application:

a. Patch Thickness: 3 inches or thickness of adjacent asphalt concrete, whichever is greater.

b. Place asphalt concrete mix across full width of patch in layers of equal thickness.

c. Spread and grade asphalt concrete with hand tools or mechanical spreader, depending on size of area to be patched.

C. Compaction:

a. Roll patches with power rollers capable of providing compression of 200 to 300 pounds per linear inch. Use hand tampers where rolling is impractical.

b. Begin rolling top course at edges of patches, lapping adjacent asphalt surface at least 1/2 the roller width. Progress toward center of patch overlapping each preceding track by at least 1/2 the width of roller.

c. Make sufficient passes over entire area to remove roller marks and to produce desired finished surface.

D. Tolerances:

a. Finished surface shall be flush with and match grade, slope, and crown of adjacent surface.

b. Tolerance: Surface smoothness shall not deviate more than plus 1/4 inch or minus 0 when a straightedge is laid across patched area between edges of new pavement and surface of old surfacing.

3.7 FIELD QUALITY CONTROL

A. General: Provide services of an approved certified independent testing laboratory to conduct tests.

B. Field Density Tests:

a. Perform tests from cores or sawed samples.

b. Measure with properly operating and calibrated nuclear density gauge.

c. Maximum Density: In accordance with ASTM D2041, using a sample of mix taken prior to compaction from the same location as the density test sample.

C. Testing Frequency:

a. Quality Control Tests:

i. Asphalt Content, Aggregate Gradation: Once per every 500 tons of mix or once every 4 hours, whichever is greater.

ii. Mix Design Properties, Measured Maximum (Rice's) Specific Gravity: Once every 1,000 tons or once every 8 hours, whichever is greater.

b. Density Tests: Once every 500 tons of mix or once every 4 hours, whichever is greater.

END OF SECTION

SECTION 02920 - SODDING

PART 1 GENERAL

1.1 DEFINITIONS

A. Maintenance Period: Begin maintenance immediately after each area is planted (sod) and continue for a period of 8 weeks after all planting under this Section is completed.

B. Satisfactory Stand:

a. Grass or Section of Grass that has:

i. No bare spots larger than 2 square feet.

ii. Not more than 10 percent of total area with bare spots larger than 1 square foot.

iii. Not more than 15 percent of total area with bare spots larger than 6 square inches.

1.2 DELIVERY, STORAGE, AND PROTECTION

A. Sod:

A. Do not harvest if sod is excessively dry or wet to the extent survival may be adversely affected.

B. Harvest and deliver sod only after laying bed is prepared for sodding.

C. Roll or stack to prevent yellowing.

D. Deliver and lay within 24 hours of harvesting.

E. Keep moist and covered to protect from drying from time of harvesting until laid.

1.3 WEATHER RESTRICTIONS

A. Perform Work under favorable weather and soil moisture conditions as determined by accepted local practice.

1.4 SEQUENCING AND SCHEDULING

A. Prepare topsoil as specified in the Contract Documents, before starting Work of this Section.

B. Complete Work under this Section within 10 days following completion of soil preparation.

C. Notify City Project Manager at Least 3 Days in Advance of:

a. Each material delivery.

b. Start of planting activity.

D. Planting Season: Those times of year that are normal for such Work as determined by accepted local practice.

1.5 MAINTENANCE SERVICE

A. Contractor: Perform maintenance operations during maintenance period to include:

a. Watering: Keep surface moist.

b. Washouts: Repair by filling with topsoil, and replace sodded areas.

c. Mowing: Mow to 2 inches after grass height reaches 3 inches, and mow to maintain grass height from exceeding 3 1/2 inches.

d. Re-sod unsatisfactory areas or portions thereof immediately at the end of the maintenance period if a satisfactory stand has not been produced, at which time maintenance period shall recommence.

e. Re-sod during next planting season if scheduled end of maintenance period falls after September 15.

PART 2 MATERIALS

2.1 FERTILIZER

A. Commercial, uniform in composition, free-flowing, suitable for application with equipment designed for that purpose. Minimum percentage of plant food by weight.

B. Mix:

a. Nitrogen: Sixteen.

b. Phosphoric Acid: Four.

c. Potash: Eight.

2.2 SOD

A. Unless a particular type of sod is called for, sod shall be Bahia grass.

a. Use Bahia grass where no irrigation system exists.

b. Use St. Augustine Floritam here an irrigation system is in use.

c. Seashore Paspalum sod will be used in areas prone to salt water flooding.

B. Strongly rooted pads, capable of supporting own weight and retaining size and shape when suspended vertically from a firm grasp on upper 10 percent of pad.

a. Grass Height: Normal.

b. Strip Size: Supplier's standard, commercial size rectangles.

c. Soil Thickness: Uniform; 1-inch plus or minus 1/4-inch at time of cutting.

d. Age: Not less than 10 months or more than 30 months.

e. Condition: Healthy, green, moist; free of diseases, nematodes and insects, and of undesirable grassy and broadleaf weeds. Yellow sod, or broken pads, or torn or uneven ends will not be accepted

f. Any netting contained within the sod shall be certified by the manufacturer to be bio-degradable within a period of 3 months from installation.

PART 3 EXECUTION

3.1 PREPARATION

A. Grade Areas to Smooth, Even Surface with Loose, Uniformly Fine Texture:

a. Roll and rake, remove ridges, fill depressions to meet finish grades.

b. Limit such Work to areas to be planted within immediate future.

c. Remove debris, foreign material and stones larger than 1 1/2 inches diameter, and other objects that may interfere with planting and maintenance operations.

B. Moisten prepared areas before planting if soil is dry. Water thoroughly and allow surface to dry off before seeding. Do not create muddy soil.

C. Restore prepared areas to specified condition if eroded or otherwise disturbed after preparation and before planting.

D. Limit preparation to those areas that can be sodded within 72 hours after preparation.

3.2 FERTILIZER

A. Apply evenly over area in accordance with manufacturer's instructions. Mix into

top 2 inches of top soil.

B. Application Rate: 20 pounds per 1,000 square feet (1,000 pounds per acre).

3.3 SODDING

A. Do not plant dormant sod, or when soil conditions are unsuitable for proper results.

B. Pre-wet the area prior to placing sod. Lay sod to form solid mass with tightly fitted joints; butt ends and sides, do not overlap:

a. Stagger strips to offset joints in adjacent courses.

b. Work from boards to avoid damage to subgrade or sod.

c. Tamp or roll lightly to ensure contact with subgrade; work sifted soil into minor cracks between pieces of sod, remove excess to avoid smothering adjacent grass.

d. Complete sod surface true to finished grade, even, and firm.

C. Fasten sod on slopes to prevent slippage with wooden pins 6 inches long driven through sod into subgrade, until flush with top of sod. Install at sufficiently close intervals to securely hold sod.

D. Water sod with fine spray immediately after planting. During first month, water daily or as required to maintain moist soil to depth of 4 inches.

3.4 FIELD QUALITY CONTROL

A. Eight weeks after sodding is complete and on written notice from Contractor, City Project Manager will, within 15 days of receipt, determine if the sod has been satisfactorily established.

B. If the sod is not satisfactorily established, Contractor shall replace the sod and repeat the requirements of this Section.

END OF SECTION

SECTION 03300 – CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.1 REFERENCES

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

a. American Concrete Institute (ACI):

i. 117, Standard Specification for Tolerances for Concrete Construction and Materials.

ii. 211.1, Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete.

iii. 301, Standard Specification for Structural Concrete.

iv. 302.1R, Guide For Concrete Floor and Slab Construction.

v. 304R, Guide for Measuring, Mixing, Transporting, and Placing Concrete.

vi. 304.2R, Placing Concrete by Pumping Methods.

vii. 305R, Hot Weather Concreting.

viii. 306.1, Standard Specification for Cold Weather Concreting.

ix. 309R, Guide for Consolidation of Concrete.

x. 318/318R, Building Code Requirements for Structural Concrete.

xi. SP-15, Standard Specification for Structural Concrete.

b. ASTM International (ASTM):

i. C31, Standard Practice for Making and Curing Concrete Test Specimens in the Field.

ii. C33, Standard Specification for Concrete Aggregates.

iii. C39, Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.

iv. C88, Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate.

v. C94, Standard Specification for Ready-Mixed Concrete.

vi. C143, Standard Test Method for Slump of Hydraulic-Cement Concrete.

vii. C150, Standard Specification for Portland Cement.

viii. C157, Standard Test Method for Length Change of Hardened Hydraulic-Cement Mortar and Concrete.

ix. C192, Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.

x. C231, Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.

xi. C260, Standard Specification for Air-Entraining Admixtures for Concrete.

xii. C311, Standard Test Methods for Sampling and Testing Fly Ash or Natural Pozzolans for Use as a Mineral Admixture inPortland-Cement Concrete.

xiii. C452, Standard Test Method for Potential Expansion of Portland-Cement Mortars Exposed to Sulfate.

xiv. C494, Standard Specification for Chemical Admixtures for Concrete.

xv. C595, Standard Specification for Blended Hydraulic Cements.

xvi. C618, Standard Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture inConcrete.

xvii. C1012, Standard Test Method for Length Change of Hydraulic-Cement Mortars Exposed to a Sulfate Solution.

xviii. C1018, Standard Test Method for Flexural Toughness and First-Crack Strength of Fiber-Reinforced Concrete (Using Beam with Third-Point Loading).

xix. C1116, Standard Specification for Fiber-Reinforced Concrete and Shotcrete

xx. C1218 Standard Test Method for Water-Soluble Chloride in Mortar and Concrete

xxi. C1240, Standard Specification for Silica Fume for Use as a Mineral Admixture in Hydraulic-Cement Concrete, Mortar, and Grout.

xxii. D2000, Standard Classification System for Rubber Products in Automotive Applications.

xxiii. D4580, Standard Practice for Measuring Delaminations inConcrete Bridge Decks by Sounding.

xxiv. E329, Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction.

c. National Bureau of Standards: Handbook No. 44, Specifications, Tolerances, and Other Technical Requirements for Commercial Weighing and Measuring Devices.

1.2 DEFINITIONS

A. Defective Areas. Surface defects that include honeycomb, rock pockets, indentations greater than 3/16 inch, cracks 0.005 inch wide and larger as well as any crack that leaks for liquid containment basins and below-grade habitable spaces; cracks 0.010 inch wide and larger in nonfluid holding structures spalls, chips, air bubbles greater than 3/4 inch in diameter, pinholes, bug holes, embedded debris, lift lines, sand lines, bleed lines, leakage from form joints, fins and other projections, form popouts, texture irregularities, and stains and other color variations that cannot be removed by cleaning.

B. Exposed Concrete. Concrete surfaces that can be seen inside or outside of structures regardless whether concrete is above water, dry at all times, or can be seen when structure is drained.

C. Hydraulic Structures. Liquid containment basins.

D. New Concrete. Less than 60 days old.

E. Slurry Concrete. Mixture of sand, 3/8-inch minus aggregate, cement, and water for wall construction joints.

1.3 SUBMITTALS

A. Action Submittals:

a. Shop Drawings:

i. Product Data. Admixtures, bonding agent, bond breaker, and patching materials.

ii. Design Data. Concrete mix designs signed by qualified mix designer.

iii. Placement Drawings:

a. Concrete, identifying location of each type of construction

joint.

b. Tremie concrete.

iv. Gradation for coarse and fine aggregates, and combined together. List gradings, percent passing through each sieve size.

v. Detailed plan for hot weather placements including curing and protection for concrete placed in ambient temperatures over 80 degrees F.

vi. Concrete repair methods and materials.

B. Informational Submittals:

a. Statements of Qualification:

i. Contractor's resident superintendent for concrete installation.

ii. Mix designer.

iii. Batch plant.

b. Test Reports:

i. Admixtures, test reports showing chemical ingredients and percentage of chloride in each admixture and fly ash.

ii. Source test analysis report for fly ash, including percentage of chloride content.

iii. Statement identifying aggregates reactivity. Determine water soluble chloride in each component of aggregates in accordance with ASTM C1218.

iv. For each trial concrete mix design and signed by a qualified mix designer.

v. Cylinder compressive test results for laboratory concrete mixes.

c. Concrete Delivery Tickets:

i. For each batch of concrete before unloading at Site.

ii. Record of drum revolution counter, type, brand, test certification, Amount of fly ash if used in accordance with ASTM C94, Section 16.

1.4 QUALITY ASSURANCE

A. Qualifications:

a. Mix Designer. Licensed professional engineer registered in the State of Florida.

b. Batch Plant. Currently certified by the National Ready Mixed Concrete Association.

B. Preinstallation Conference:

a. Required Meeting Attendees:

i. Contractor, including pumping, placing and finishing, and curing subcontractors.

ii. Ready-mix producer.

iii. Admixture representative.

iv. Testing and sampling personnel.

v. Engineer.

b. Schedule and conduct prior to incorporation of respective products into Project. Notify Engineer of location and time.

c. Agenda shall include:

i. Admixture types, dosage, performance, and redosing at Site.

ii. Mix designs, test of mixes, and Submittals.

iii. Placement methods, techniques, equipment, consolidation, and form pressures.

iv. Slump and placement time to maintain slump.

v. Finish, curing, and water retention.

vi. Protection procedures for weather conditions.

vii. Other specified requirements requiring coordination.

d. Conference minutes as specified in Section 01200, Project Meetings.

PART 2 PRODUCTS

2.1 MATERIALS

A. Cement. Furnish from one source.

a. Portland Cement Type I or Type II:

i. Meet ASTM C150.

ii. Alkalies: Maximum 0.60 percent.

iii. Tricalcium Aluminate Content of Type I Cement: Maximum 12 percent.

iv. Nonhydraulic Abovegrade Structures: Type I or Type II cement.

v. Hydraulic and Belowgrade Structures and Sewers: Type II cement or combination of Type I mixed with fly ash.

vi. Combine fly ash with cement at batch plant or during production of cement in accordance with ASTM C595, Type IP cement.

B. Aggregates. Furnish from one source.

a. Natural Aggregates:

i. Free from deleterious coatings and substances in accordance with ASTM C33, except as modified herein.

ii. Free of materials and aggregate types causing popouts, discoloration, staining, or other defects on surface of concrete.

b. Nonpotentially Reactive. In accordance with ASTM C33, Appendix XI, Paragraph X1.1.

c. Aggregate Soundness. Test for fine and coarse aggregates in accordance with ASTM C33 and ASTM C88 using sodium sulfatesolution.

d. Fine Aggregates:

i. Clean, sharp, natural sand.

ii. ASTM C33.

iii. Materials Passing 200 Sieve: 4 percent maximum.

iv. Limit deleterious substances in accordance with ASTM C33, Table 1 with material finer than 200 sieve limited to 3 percent, coaland lignite limited to 0.5 percent.

e. Coarse Aggregate:

i. Natural gravels, combination of gravels and crushed gravels,

crushed stone, or combination of these materials containing no more than 15 percent flat or elongated particles (long dimension more than five times the short dimension).

ii. Materials Passing 200 Sieve: 0.5 percent maximum.

iii. Limit deleterious substances in accordance with ASTM C33, Table 3 for exposed concrete.

C. Admixtures. Furnish from one manufacturer.

a. Characteristics. Compatible with each other and free of chlorides or other corrosive chemicals.

b. Air-Entraining Admixture:

i. ASTM C260, nontoxic after 30 days and contains no chlorides.

ii. Concrete with air-entrainment admixture added shall maintain air percentage as batched, within plus or minus 2 percent for time required for placement into structure.

c. Water-Reducing Admixture, ASTM C494, Type A or Type D.

i. Manufacturers and Products:

a. Master Builders, Inc., Cleveland, OH; Pozzolith or Polyheed.

b. W. R. Grace & Co., Cambridge, MA; WRDA with HYCOL.

c. Euclid Chemical Co., Cleveland, OH; Eucon WR-91.

d. High Range Water Reducing Admixture (Superplasticizer):

i. ASTM C494.

ii. Hold slump of 5 inches or greater for time required for placement.

iii. Furnish type as recommended by manufacturer for allowed temperature ranges.

iv. Type F or G.

v. Manufacturers and Products:

a. Master Builders, Inc., Cleveland, OH; Rheobuild or Polyheed at dosage greater than 10 ounces per 100 pounds of cement.

b. W. R. Grace & Co., Cambridge, MA; Daracem 100.

c. Euclid Chemical Co., Cleveland, OH; Eucon 537.

e. Pozzolan (Fly Ash). Class C or Class F fly ash in accordance with ASTM C618, Table 1 and 2, except as modified herein:

i. Shall not be produced from process that has utilized hazardous or potentially hazardous materials.

ii. Loss on Ignition: Maximum 3 percent.

iii. Water Requirement: Maximum 100 percent of control.

iv.

$$\frac{CaO(\%) - 5}{FE_2O_3(\%)} : Maximum\ 1.5$$

v. ASTM C618, Table 3, Reactivity with Cement Alkalies, apply when aggregate or portions of aggregate is reactive as specified under Paragraph Nonpotentially Reactive.

vi. ASTM C618, Table 3, Uniformity Requirements, apply when loss on ignition of fly ash furnished exceeds 3 percent.

f. Fly Ash. Maximum 25 percent, minimum 15 percent of total weight of fly ash plus cement.

g. For fly ash not meeting requirements of chemical ratio listed above, furnish the following:

i. Test fly ash in accordance with ASTM C1012.

ii. Furnish test data confirming fly ash in combination with cement used meets strength requirements, is compatible with air-entraining agents and other additives, and provides increased sulfate resistance equivalent to or better than Type II cement.

iii. Conduct tests using proposed fly ash and cement samples together with control samples using Type II cement without fly ash.

D. Water. Clean and potable containing less than 500 ppm of chlorides.

2.2 CONCRETE MIX DESIGN

A. Design. Select and proportion ingredients using trial batches; sample, cure and test concrete mix through approved independent testing laboratory in accordance with ACI 211.1.

a. Concrete Compressive Strength, F'c:

i. 4,000 psi at 28 days, unless otherwise shown, except 3,000 psi at 28 days for secondary concrete elements such as curbs, sidewalks, and pipe/conduit encasements.

ii. Design lab-cured trial mix cylinders.

iii. Use additional cement or cement plus fly ash above minimum specified if required to meet average compressive strength, F'cr.

iv. Use F'cr as basis for selection of concrete proportions as set forth in ACI 301.

v. F'cr: Equal to F'c plus 1,200 when data are not available to establish standard deviation.

b. Concrete Fill:

i. Design for 2,500 psi at 28 days using 3/4-inch aggregate, 4-inch maximum slump and 0.46 maximum water-cement ratio.

ii. Use water-reducing admixture.

B. Proportions:

a. Design mix to meet aesthetic and structural concrete requirements.

b. In accordance with ACI 211.1, unless specified otherwise.

c. Unless specifically stated otherwise, water-cement ratio (or water-cement plus fly ash ratio) shall control amount of total water added to concrete as follows:

Water-Cement Ratio		
Coarse Aggregate Size	Maximum W/C Ratio w/ Superplasticizer	Maximum W/C Ratio w/o Superplasticizer
1-1/2"	0.40	0.44
1"	0.40	0.44
3/4"	0.40	0.44

d. Minimum Cement Content (or Combined Cement Plus Fly Ash Content When Fly Ash is Used):

i. 517 pounds per cubic yard for concrete with 1-1/2-inch maximum size aggregate.

ii. 540 pounds per cubic yard for 1-inch maximum size aggregate.

iii. 564 pounds per cubic yard for 3/4-inch maximum size aggregate.

iv. Increase cement content or combined cement plus fly ash content, as required to meet strength requirements and water-cement ratio.

C. Admixtures:

a. Air Content. 4 to 6 percent when tested in accordance with ASTM C231;3 percent maximum for interior slabs where heavy-duty concrete floor finish is required.

b. Fly Ash. Maximum 25 percent, minimum 15 percent of total weight of fly ash plus cement.

c. Water Reducers. Use in all concrete.

d. High Range Water Reducers (Superplastizicers). Use at Contractor's option. Control slump and workability to at least 4-1/2-inch slump at discharge into forms by adjusting high range water reducer at batch plant.

D. Slump Range at Site:

a. 4-1/2 inches minimum, 8 inches maximum for concrete with a high range water reducing admixture.

b. 3 inches minimum and 5 inches maximum for concrete without high range water reducing admixture.

E. Combined Aggregate Gradation:

a. Structures. Select one of the gradations shown in the following table.

b. Combined Gradation Limits. Limits shown are for coarse aggregates and fine aggregates mixed together (combined).

Sieve Sizes	Combined Gradation Percentage Passing		
	1-1/2" Max.	**1" Max.**	**3/4" Max.**
2"	- 100	-	-
1-1/2"	95 - 100	- 100	-
1"	65 - 85	90 - 100	- 100
3/4"	55 - 75	70 - 90	92 – 100
1/2"	-		68 – 86
3/8"	40 - 55	45 - 65	57 – 74
No. 4	30 - 45	31 - 47	38 – 57
No. 8	23 - 38	23 - 40	28 – 46

Sieve Sizes	Combined Gradation Percentage Passing		
	1-1/2" Max.	1" Max.	3/4" Max.
No. 16	16 - 30	17 - 35	20 – 36
No. 30	10 - 20	10 - 23	14 – 25
No. 50	4 - 10	2 - 10	5 – 14
No. 100	0 - 3	0 - 3	0 – 5
No. 200	0 - 2	0 - 2	0 – 2

F. Tremie Concrete:

a. Minimum cement content of 658 pounds per cubic yard.

b. Use high range water reducing admixture (superplasticizers) admixture in accordance with ASTM C494, Type F or Type G.

c. Fine Aggregate Range: 40 to 50 percent of total aggregates by weight.

d. Use natural round gravel if available in Project area.

e. Proportion mix for design strength and slump range of 6 to 9 inches with maximum water-cement ratio.

f. Use anti-washout admixture in accordance with manufacturer'srecommendations.

2.3 CONCRETE MIXING

A. General. In accordance with ACI 304R.

B. Concrete Mix Temperatures. As shown below for various stages of mixing and placing:

CONCRETE TEMPERATURES				
Ambient Air Temp.	Concrete Member Size, Minimum Dimension <12"	12"-36"	36"-72"	>72"
Minimum concrete temperature as mixed for indicated air temperature:				
Above 30 deg .F	60 deg. F	55 deg. F	50 deg. F	45 deg. F
0 to 30 deg. F	65 deg. F	60 deg. F	55 deg. F	50 deg. F
Below 0 deg. F	70 deg. F	65 deg. F	60 deg. F	55 deg. F
Maximum allowable gradual temperature drop in first 24 hours after curing period and after end of protection:				
–	50 deg. F	40 deg. F	30 deg. F	20 deg. F

C. Truck Mixers:

a. Equip with electrically actuated counters to readily verify number of revolutions of drum or blades.

b. Counter:

i. Resettable, recording type, mounted in driver's cab.

ii. Actuated at time of starting mixers at mixing speeds.

c. Truck mixer operation shall furnish concrete batch as discharged that is homogeneous with respect to consistency, mix, and grading.

d. If slump tests taken at approximately 1/4 and 3/4 points of load during discharge give slumps differing by more than 2 inches when specified, slump is more than 4 inches, discontinue use of truck mixer unless causing condition is corrected and satisfactory performance is verified by additional slump tests.

e. Before attempting to reuse unit, check mechanical details of mixer, such as water measuring, and discharge apparatus, condition of blades, speed of rotation, general mechanical condition of unit, admixture dispensing equipment, and clearance of drum.

f. Do not use nonagitating or combination truck and trailer equipment for transporting ready-mixed concrete.

g. Concrete Volume in Truck:

i. Limit to 63 percent of total volume capacity in accordance with ASTM C94 when truck mixed.

ii. Limit to 80 percent of total volume capacity when central mixed.

h. Mix each batch of concrete in truck mixer for minimum 70 revolutions of drum or blades at rate of rotation designated by equipment manufacturer.

i. Perform additional mixing, if required, at speed designated by equipment manufacturer as agitating speed.

j. Place materials, including mixing water, in mixer drum before actuating revolution counter for determining number of mixing revolutions.

D. Aggregates. Thoroughly and uniformly wash before use.

E. Admixtures:

a. Air-Entraining Admixture. Add at plant through manufacturer-approved dispensing equipment.

b. Water Reducers. Add prior to addition of high range water reducing admixture (superplasticizers).

c. High range water reducing admixture (superplasticizers) andAir-Entraining Admixtures:

i. Add at concrete plant only through equipment furnished or approved by admixture manufacturer.

ii. Accomplish variations in slump, working time, and air content for flowable mixes by increasing or reducing high range water reducing admixture (superplasticizers) dose or air-entraining admixture dose at ready-mix plant only.

iii. Equipment shall provide for easy and quick visual verification of admixture amount used for each dose.

iv. Add discharge amount to each load of concrete into separate dispensing container, verify amount is correct, and add to concrete.

v. Additional dosage of high range water reducing admixture (superplasticizers) may be added in field using manufacturer-approved dispensing when unexpected delays cause too great of slump loss.

2.4 SOURCE QUALITY CONTROL

A. Cement. Test for total chloride content.

B. Fly Ash. Test in accordance with ASTM C311.

C. Batch Plant Inspection. Engineer shall have access to and have right to inspect batch plants, cement mills, and supply facilities of suppliers, manufacturers, and Subcontractors, providing products included in these Specifications.

a. Weighing Scales. Tested and certified within tolerances set forth in the National Bureau of Standards Handbook No. 44.

b. Batch Plant Equipment. Either semiautomatic or fully automatic in accordance with ASTM C94.

PART 3 EXECUTION

3.1 PLACING CONCRETE

A. Preparation. Meet requirements and recommendations of ACI 304R andACI 301, except as modified herein.

B. Inspection. Notify Engineer at least 1 full working day in advance before starting to place concrete.

C. Discharge Time:

a. As determined by set time, do not exceed 1-1/2 hours after adding cement to water unless special approved time delay admixtures are used. Coordinate time delay admixture information with manufacturer and Engineer prior to placing concrete.

b. Adjust slump or air content at Site by adding admixtures for particularload when approved by Engineer. Then, adjust plant dosage for remainder of placement. Additional dosage at Site shall be through approved dispenser supplied by admixture manufacturer.

c. Maintain required slump throughout time of concrete placement and consolidation. Discontinue use of high range water reducing admixture (superplasticizers) and provide new mix design if it fails to maintain slump between 4 to 8 inches and produce good consolidation for the length of time required. Redesign mix adjusting set control admixtures to maintain setting time in range required.

D. Placement into Formwork:

a. Before depositing concrete, remove debris from space to be occupied by concrete.

b. Prior to placement of concrete, dampen fill under slabs on ground, dampen sand where vapor retarder is specified, and dampen wood forms.

c. Reinforcement, Secure in position before placing concrete.

d. Place concrete as soon as possible after leaving mixer, without segregation or loss of ingredients, without splashing forms or steel above,and in layers not over 1.5 feet deep, except for slabs which shall be placed full depth. Place and consolidate successive layers prior to initial set of first layer to prevent cold joints.

e. Use placement devices, for example, chutes, pouring spouts, and pumps.

f. Vertical Free Fall Drop to Final Placement: 5 feet in forms 8 inches or less wide and 8 feet in forms wider than 8 inches, except as specified.

i. For placements where drops are greater than specified, use placement device such that free fall below placement device conforms to required value.

ii. Limit free fall to prevent segregation caused by aggregates hitting reinforcing steel.

g. Do not use aluminum conveying devices.

h. Provide sufficient illumination in the interior of forms so concrete deposition is visible, permitting confirmation of consolidation quality.

i. Joints in Footings and Slabs:

i. Ensure space beneath plastic water stop completely fills with concrete.

ii. During concrete placement, make visual inspection of entire water stop area.

iii. Limit concrete placement to elevation of water stop in first pass, vibrate concrete under water stop, lift water stop to confirm full consolidation without voids, place remaining concrete to full height of slab.

iv. Apply procedure to full length of water stops.

j. If reinforcement is in direct sunlight or is more than 20 degrees F higher in temperature than concrete temperature before placement, wet reinforcement with water fog spray before placing concrete to cool reinforcement.

k. Trowel and round off top exposed edges of walls with 1/4-inch radius steel edging tool.

E. Conveyor Belts and Chutes:

a. Design and arrange ends of chutes, hopper gates, and other points of concrete discharge throughout conveying, hoisting, and placing system for concrete to pass without becoming segregated.

b. Do not use chutes longer than 50 feet.

c. Minimum Slopes of Chutes, Angled to allow concrete to readily flowwithout segregation.

d. Conveyor Belts:

i. Approved by Engineer.

ii. Wipe clean with device that does not allow mortar to adhere to belt.

iii. Cover conveyor belts and chutes.

F. Retempering. Not permitted for concrete where cement has partially hydrated.

G. Pumping of Concrete:

a. Provide standby pump, conveyor system, crane and concrete bucket, or other system onsite during pumping, for adequate redundancy to assure completion of concrete placement without cold joints in case of primary placing equipment breakdown.

b. Minimum Pump Hose (Conduit) Diameter. 4 inches.

c. Replace pumping equipment and hoses (conduits) that are not functioning properly.

H. Maximum Size of Concrete Placements:

a. Limit size of each placement to allow for strength gain and volume change due to shrinkage.

b. Locate expansion, control, contraction, and construction joints where shown. When expansion or control joints are not shown, provide construction joints at maximum spacing of 40 feet. When expansion or control joint spacing exceeds 60 feet, provide intermediate construction joints at maximum spacing of 40 feet. Uniformly space construction joints. Vertical construction joint shall not be greater than 20 feet from wallcorners or intersections.

c. Consider beams, girders, brackets, column capitals, and haunches as part of floor or roof system and place monolithically with floor or roof system.

d. Should placement sequence result in cold joint located below finished water surface, install water stop in joint.

I. Minimum Time Between Adjacent Placements:

a. Construction Joints. 14 days (7 days wet cure and 7 days dry cure).

b. Control Joints. 6 days.

c. Expansion Joints/Contraction Joints. 1 day.

d. At least 2 hours shall elapse after depositing concrete in long columns and walls thicker than 8 inches before depositing concrete in beams, girders, or slabs supported thereon.

e. For columns and walls 10 feet in height or less, wait at least 45 minutes prior to depositing concrete in beams, girders, brackets, column capitals, or slabs supported thereon.

J. Removal of Water. Unless tremie method for placing concrete is specified, remove water from space to be occupied by concrete.

K. Consolidation and Visual Observation:

a. Consolidate concrete with internal vibrators with minimum frequency of 8,000 cycles per minute and amplitude as required to consolidate concrete in section being placed.

b. Provide at least one standby vibrator in operable condition at placement Site prior to placing concrete.

c. Consolidation Equipment and Methods: ACI 309R.

d. Provide sufficient windows in forms or limit form height to allow for concrete placement through windows and for visual observation of concrete.

e. Vibration consolidation shall not exceed distance of 3 feet from point of placement.

f. Vibrate concrete in vicinity of joints to obtain impervious concrete.

L. Hot Weather:

a. Prepare ingredients, mix, place, cure, and protect in accordance withACI 305R.

b. Placement frequency shall be such that lift lines will not be visible in exposed concrete finishes.

c. Maintain concrete temperature below 90 degrees F at time of placement, or furnish test data or provide other proof that admixtures and mix ingredients do not produce flash set plastic shrinkage, or cracking due to heat of hydration. Cool ingredients before mixing to maintain fresh concrete temperatures as specified or less.

d. Provide for windbreaks, shading, fog spraying, sprinkling, ice, wet cover, or other means as necessary to maintain concrete at or below specified temperature.

e. Prevent differential temperature between reinforcing steel and concrete.

f. Evaporation Retardant: As specified in Section 03370, Concrete Curing.

3.2 PLACING TREMIE CONCRETE SEALS

A. Place concrete when water level inside area to be filled with concrete is equal to groundwater elevation outside.

B. Maintain relation of water levels until concrete design strength is obtained.

3.3 CONCREE BONDING

A. Horizontal Construction Joints in Reinforced Concrete Walls:

a. Thoroughly clean and saturate surface of joint with water.

b. Limit slurry concrete placement to 2-inch maximum thickness, 1-inch minimum thickness.

c. Use positive measuring device such as bucket or other device that will contain only enough slurry concrete for depositing in visually measurable area of wall to ensure that portion of form receives appropriate amount of slurry concrete to satisfy placement thickness requirements.

d. Do not deposit slurry concrete from pump hoses or large concrete buckets, unless specified placement thickness can be maintained and verified through inspection windows close to joint.

e. Limit concrete placed immediately on top of slurry concrete to 12 inches thick. Thoroughly vibrate to mix concrete and slurry concrete together.

B. To Existing Concrete:

a. Thoroughly clean and mechanically roughen existing concrete surfaces to roughness profile of 1/4 inch.

b. Saturate surface with water for 24 hours prior to placing new concrete.

3.4 CONSTRUCTION JOINTS

A. As specified in Section 03251, Concrete Joints.

3.5 REPAIRING CONCRETE

A. General:

a. Inject cracks that leak with crack repair epoxy.

b. Obtain quantities of repair material and manufacturer’s detailed instructions for use to provide repair with finish to match adjacent surface or apply sufficient repair material adjacent to repair to blend finish appearance.

c. Repair of concrete shall provide structurally sound surface finish, uniform in appearance or upgrade finish by other means until acceptable to Engineer.

B. Tie Holes:

a. Fill with nonshrink grout as specified in Section 03600, Grout.

b. Match color of adjacent concrete and demonstrate on mockup panels first.

c. Compact grout using steel hammer and steel tool to drive grout to high density. Cure grout with water.

C. Alternate Form Ties; Through-Bolts:

a. Mechanically roughen entire interior surface of through hole. Epoxy coat roughened surface and drive elastic vinyl plug to half depth. Dry pack entire hole from both sides of plug with nonshrink grout, as specified in Section 03600, Grout. Use only enough water to dry pack grout. Dry packwhile epoxy is still tacky. If epoxy has dried, remove epoxy by mechanicalmeans and reapply new epoxy.

b. Compact grout using steel hammer and steel tool to drive grout to high density. Cure grout with water.

D. Exposed Metal Objects:

a. Metal objects not intended to be exposed in as-built condition of structure including wire, nails, and bolts, shall be removed by chipping back concrete to depth of 1 inch and then cutting or removing metal object.

b. Repair area of chipped-out concrete per requirements of Section 03720, Vertical And Overhead Concrete Repair Systems.

E. Blockouts at Pipes or Other Penetrations:

a. Install per details shown on Drawings or submit proposed blockouts for review.

b. Use nonshrink, nonmetallic grout.

3.6 CONCRETE WALL FINISHED

A. Type W-1 (Ordinary Wall Finish):

a. Patch tie holes.

b. Knock off projections.

c. Patch defective areas.

B. Type W-2 (Smooth Wall Finish):

a. Patch tie holes.

b. Grind off projections, fins, and rough spots.

c. Patch defective areas and repair rough spots resulting from form release agent failure or other reasons to provide smooth uniform appearance.

C. Type W-4 (Finish for Cementitious Coatings):

a. Patch tie holes.

b. Grind off projections, fins, and rough spots.

c. Patch and repair defective areas as specified for Type W-2.

D. Type W-5 (Finish for Painting):

a. Patch tie holes.

b. Grind off projections, fins, and rough spots.

c. Patch and repair defective areas as specified for Type W-2.

d. Leave surface ready for painting as specified in Section 09900, Painting and Protective Coatings.

E. Type W-7 (Smooth Rubbed Wall Finish):

a. Only water curing will be permitted on walls being rubbed.

b. Perform rubbing while green concrete can be physically worked and smoothed without adding other materials, if structurally possible, the day following placement. Finish no later than 3 days after placement has been completed.

c. Remove forms at such a rate that all finishing, form tie filling, fin removal, and patching can be completed on same day forms are removed while curing wall.

d. After pointings have set sufficiently to permit working on surface, thoroughly saturate entire surface with water for period of 3 hours and rub until uniform surface is obtained.

e. Rub either by hand with carborundum stone of medium-coarse grade or abrasive of equal quality, or mechanically operated carborundum stone.

f. Mechanically operated carborundum stones shall be approved by Engineer before concrete finishing.

g. No cement grout, other than cement paste drawn from the concrete itself by the rubbing process shall be used.

h. Finish paste formed by rubbing by either brushing or floating as follows:

i. Brushing:

a. Carefully strike with clean brush.

b. Brush in long direction of surface being finished.

i. Floating:

a. Spread uniformly over surface and allow to reset.

b. Finish by floating with canvas, carpet face, or cork float, or rub down with dry burlap.

j. Continue water curing of wall during finishing operation in areas not being rubbed.

k. Move water curing onto rubbed areas as soon as water will not erode rubbed surface.

F. Type W-8 (Rubbed Wall Finish):

a. Meet requirements for Type W-7, except allow paste obtained from rubbing to set at least 24 hours.

b. After thoroughly saturating with water, coat surface with mixture of 85 percent cement and 15 percent lime with sufficient water to give creamy consistency. Demonstrate on sample panel prior to production finishing.

c. Rub this mixture into surface with coarse carborundum stone and brush with damp brush.

d. Brush in long direction of surface being finished.

e. Latex bonding admixture may be used. Consult with Euclid Chemical Co., Cleveland, OH or Master Builders Co., Cleveland, OH.

G. Type W-9 (Grout Cleaned Finish):

a. Meet requirements for Type W-7, except that finish must be accomplished within 7 days of placement.

b. Grout. Mixed with 1 part Portland cement and 1-1/2 parts fine sand and bonding agent to produce grout with consistency of thick paint. White Portland cement shall be substituted for part of gray Portland cement in order to produce color matching color of surrounding concrete, as determined by trial patch.

c. Wet surface of concrete sufficiently to prevent absorption of water from grout and apply grout uniformly with brushes or spray gun.

d. Immediately after applying grout, scrub surface vigorously with cork float or stone to coat surface and fill air bubbles and holes.

e. While grout is still plastic, remove excess grout by working surface with rubber float, burlap, or other means. After surface whitens from drying (about 30 minutes at 70 degrees F), rub vigorously with clean burlap. Continue to water cure wall until curing period of 7 days is complete.

f. Latex bonding admixture may be used.

H. W-10 (Fractured Fin Finish):

a. Form exterior surface of walls with approved form liner.

b. Use stainless steel form ties and place at valleys.

c. Patch form tie holes.

d. Achieve final texture by light sandblast and then breaking off tips of ridge with light bushhammering, or other approved process.

e. Same person starting bushhammering shall complete process for any given structure and match approved mockup panel.

I. Type W-11 (Abrasive Blast - Sandblast Finish):

a. Intent of this procedure is to remove surface skin to depth no more than 1/16 inch, and expose only fine aggregate and air holes near surface, thus producing uniform texture.

b. Perform sandblasting on building or on concrete surfaces in same area of view at same time and obtain uniformity of appearance.

c. Same person shall accomplish sandblasting on one structure and on concrete in same area.

d. Perform sandblasting to match approved mockup panel.

e. Abrasive. Use clean silica sand, free of foreign materials, and supplied in sealed sacks.

f. Blast surface with 100 psi air pressure at rate of 2 to 3 square feet per minute with nozzle held approximately 2 feet from surface and perpendicular thereto.

3.7 CONCRETE SLAB FINISHED

A. General:

a. Finish slab concrete per the requirements of ACI 302.1R.

b. Use manual screeds, vibrating screeds, or roller compacting screeds to place concrete level and smooth.

c. Do not use “jitterbugs” or other special tools designed for purpose of forcing coarse aggregate away from surface and allowing layer of mortar, which will be weak and cause surface cracks or delamination, to accumulate.

d. Do not dust surfaces with dry materials.

e. Use evaporation retardant.

f. Round off edges of slabs with steel edging tool, except where cove finish is shown. Steel edging tool radius shall be 1/4 inch for slabs subject to wheeled traffic.

B. Type S-1 (Steel Troweled Finish):

a. Finish by screeding and floating with straightedges to bring surfaces to required finish elevation. Use evaporation retardant.

b. While concrete is still green, but sufficiently hardened to bear a person’s weight without deep imprint, wood float to true, even plane with no coarse aggregate visible.

c. Use sufficient pressure on wood floats to bring moisture to surface.

d. After surface moisture has disappeared, hand trowel concrete to produce smooth, impervious surface, free from trowel marks.

e. Burnish surface with an additional troweling. Final troweling shall produce ringing sound from trowel.

f. Do not use dry cement or additional water during troweling, nor will excessive troweling be permitted.

g. Power Finishing:

i. Approved power machine may be used in lieu of hand finishing in accordance with directions of machine manufacturer.

ii. Do not use power machine when concrete has not attained necessary set to allow finishing without introducing high and low spots in slab.

iii. Do first steel troweling for slab S-1 finish by hand.

C. Type S-2 (Wood Float Finish):

a. Finish slab to receive fill and mortar setting bed by screeding with straightedges to bring surface to required finish plane.

b. Wood float finish to compact and seal surface.

c. Remove laitance and leave surface clean.

d. Coordinate with other finish procedures.

D. Type S-4 (Exposed Aggregate Finish):

a. Embed single layer of selected aggregates at surface of concrete slab immediately after it has been placed, screeded, and smoothed.

b. Embed aggregates by tamping with wood float, darby, or rolling device.

c. Accomplish exposure of selected aggregates by removing surface matrix by washing with water and brushing with stiff plastic bristled brush as soon as concrete has set sufficiently to support weight of a person.

d. Exposure. No greater than 1/3 the average diameter of aggregate, nor less than 1/4.

e. Next day acid wash until there is no noticeable cement film on aggregate exposed.

f. Apply clear sealer per manufacturer's recommendations.

E. Type S-5 (Broomed Finish):

a. Finish as specified for Type S-1 floor finish, except omit final troweling and finish surface by drawing fine-hair broom lightly across surface.

b. Broom in same direction and parallel to expansion joints, or, in the case of inclined slabs, perpendicular to slope, except for round roof slab, broom surface in radial direction.

F. Type S-6 (Sidewalk Finish):

a. Slope walks down 1/4 inch per foot away from structures, unless otherwise shown.

b. Strike off surface by means of strike board and float with wood or cork float to true plane, then flat steel trowel before brooming.

c. Broom surface at right angles to direction of traffic or as shown.

d. Lay out sidewalk surfaces in blocks, as shown or as directed by Engineer, with grooving tool.

G. Concrete Curbs:

a. Float top surface of curb smooth, and finish all discontinuous edges with steel edger.

b. After concrete has taken its initial set, remove front form and give exposed vertical surface an ordinary wall finish, Type W-1.

3.8 CONCRETE SLAB TOLERENCES

A. Slab Tolerances:

a. Exposed Slab Surfaces. Comprise of flat planes as required within tolerances specified.

b. Slab Finish Tolerances and Slope Tolerances. Crowns on floor surface not too high as to prevent 10-foot straightedge from resting on neither end blocks, nor low spots that allow block of twice the tolerance in thickness to pass under supported 10-foot straightedge.

c. Slab Type S-A. Steel gauge block 5/16 inch thick.

d. Slab Type S-B. Steel gauge block 1/8 inch thick.

e. Slab Type S-A and S-B: Finish Slab Elevation. Slope slabs to floor drain and gutter, and shall adequately drain regardless of tolerances.

f. Thickness. Maximum 1/4 inch minus or 1/2 inch plus from thickness shown. Where thickness tolerance will not affect slope, drainage, or slab elevation, thickness tolerance may exceed 1/2 inch plus.

B. Thickness. Maximum 1/4 inch minus or 1/2 inch plus from thickness shown.Where thickness tolerance will not affect slope, drainage, or slab elevation,thickness tolerance may exceed 1/2 inch plus.

3.9 BEAM AND COLUMN FINISHED

A. General. Inject cracks with crack repair epoxy. Patch and repair defective areas.

B. Match Wall Type:

a. Repair rock pockets.

b. Fill air voids.

3.10 BACKFILL AGAINST WALLS

SECTION

03300

A. Do not backfill against walls until concrete has obtained specified 28-day compressive strength.

B. Place backfill simultaneously on both sides of wall, where required, to prevent differential pressures.

3.11 FIELD QUALITY CONTROL

A. General:

a. Provide adequate facilities for safe storage and proper curing of concrete test cylinders onsite for first 24 hours, and for additional time as may be required before transporting to test lab.

b. Provide concrete for testing of slump, air content, and for making cylinders from the point of discharge into forms. When concrete is pumped, Samples used shall be taken from discharge end of pump hose.

c. Evaluation will be in accordance with ACI 301 and Specifications.

d. Specimens shall be made, cured, and tested in accordance with ASTM C31 and ASTM C39.

e. Frequency of testing may be changed at discretion of Engineer.

f. Pumped Concrete. Take concrete samples for slump (ASTM C143) and test cylinders (ASTM C31 and C39) and shrinkage specimens (ASTM C157) at placement (discharge) end of line.

g. Reject concrete represented by cylinders failing to meet strength and air content specified.

B. Tolerances:

a. Walls. Measure and inspect walls for compliance with tolerances specified in Section 03100, Concrete Formwork.

b. Slab Finish Tolerances and Slope Tolerances:

i. Floor flatness measurements shall be made day after floor is finished and before shoring is removed to eliminate effects of shrinkage, curing, and deflection.

ii. Support 10-foot long straightedge at each end with steel gauge blocks of thicknesses equal to specified tolerance.

iii. Compliance with designated limits in four of five consecutive measurements is satisfactory, unless defective conditions are observed.

C. Water Leakage Tests:

a. Purpose. Determine integrity and watertightness of finished exterior and interior water holding concrete surfaces.

b. Potable Water Supply Reservoirs. Clean and sterilize prior to conducting test as specified in Section 02519, Disinfection of Water Systems.

c. Water-Holding Structures:

i. Perform leakage tests after concrete structure is complete and capable of resisting hydrostatic pressure of water test. Concrete shall have achieved its full design strength.

ii. Perform leakage test before backfill, brick facing, grout topping slab, coatings, or other work that will cover concrete surfaces has begun.

iii. Install temporary bulkheads, cofferdams, and pipe blind flanges, and close valves. Inspect each to see that it provides complete seal.

iv. Fill with water to test level shown, or maximum liquid level if no test level is given. Maintain this level for 72 hours prior to start of test to allow water absorption, structural deflection, and temperature to stabilize.

v. Measure evaporation and precipitation by floating a partially filled, transparent, calibrated, open top container.

vi. Measure water surface at two points 180 degrees apart when possible where attachments, such as ladders exist, at 24-hour intervals. Using sharp pointed hook gauge and fixed metal measure capable of reading to 1/100 of an inch. Continue test for period of time sufficient to produce at least 1/2-inch drop in water surface based on assumption that leakage would occur at maximum allowable rate specified or for 72 hours, whichever is lesser time.

d. Acceptance Criteria:

i. Volume loss shall not exceed 0.075 percent of contained liquid volume in 24-hour period, correcting for evaporation, precipitation, and settlement.

ii. No damp spots or seepage visible on exposed surfaces. Damp spot is defined as sufficient moisture to be transferred to dry hand upon touching.

e. Repairs When Test Fails: Dewater structure; fill leaking cracks with crack

repair epoxy as specified in Section 03740, Concrete Repair Crack Injection. Patch areas of damp spots previously recorded, and repeat water leakage test in its entirety until the structure successfully passes the test.

3.12 MANUFACTURER'S SERVICES

A. Provide the following representative at Site in accordance with Section 01640, Manufacturers' Services, for installation assistance, inspection, and certification of proper installation for concrete ingredients, mix design, mixing, and placement.

a. Batch Plant Representative:

i. Observe how concrete mixes are performing.

ii. Be present during first placement of each type of concrete mix.

iii. Assist with concrete mix design, performance, placement, weather problems, and problems as may occur with concrete mixthroughout Project.

iv. Establish control limits on concrete mix designs.

b. Admixture Manufacturer's Representative:

i. Demonstrate special features, product performance, product mixing, testing, and placement or installation for each type of admixture.

ii. Observe how concrete mixes are performing.

iii. Be present during first placement of each type of concrete mix.

iv. Assist with concrete mix design, performance, placement, weather problems, and problems as may occur with concrete mixthroughout Project, including instructions for redosing.

v. Provide equipment for control of concrete redosing for air entrainment or high range water reducing admixture (superplasticizers) at Site to maintain proper slump and air content if so needed.

c. Bonding Agent Manufacturer's Representative: Demonstrate product performance, product mixing, and placement.

3.13 PROTECTION OF INSTALLED WORK

A. After curing as specified in Section 03370, Concrete Curing, and after applying final floor finish, cover slabs with plywood or particle board or plastic sheeting or

other material to keep floor clean and protect it from material and damage due to other construction work.

B. Repair defective areas and areas damaged by construction.

END OF SECTION

SECTION 03370 – CONCRETE CURING

PART 1 GENERAL

1.1 THE REQUIREMENT

A. Protect all freshly deposited concrete from premature drying and excessively hot or cold temperatures, and maintain with minimal moisture loss at a relatively constant temperature for the period of time necessary for the hydration of the cement and proper hardening of the concrete in accordance with requirements specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Concrete Framework

B. Joints in Concrete

C. Cast-in-Place Concrete

D. Grout

E. Concrete Finishes

1.3 SUBMITTALS

A. In accordance with the procedures and requirements set forth in the Section entitled "Submittals", the contractor shall submit the following:

a. Request for acceptance along with procedures for protection of concrete under wet weather placement conditions.

b. Request for placement along with proposed procedures for hot weather placement.

c. Request for acceptance and proposed materials and procedures for moisture preservation.

1.4 REFERENCE SPECIFICATIONS, CODES AND STANDARDS

A. Without limiting the generality of other requirements of these specifications all work hereunder shall conform to the applicable requirements of the referenced portions of the following documents, to the extent that the requirements therein are not in conflict with the provisions of this Section.

a. Specifications for Structural Concrete for buildings, ACI 301.

b. Guide for Measuring, Mixing, Transporting, and Placing Concrete, ACI 304.

c. Hot Weather Concreting, ACI 305.

d. Specifications for Sheet Materials for Curing Concrete, ASTM C171.

e. Specification for Liquid Membrane - Forming Compounds for Curing Concrete, ASTM C309.

f. Federal Specification TT-C-800.

1.5 QUALITY ASSURANCE

A. Curing compound shall not be used on any surface where concrete or other material will be bonded unless the manufacturer certifies that the curing compound will not prevent bond or indicates measures to be taken to completely remove the curing compound from areas to receive bonded applications.

B. Care shall be taken to ensure that curing compounds are compatible with all finish concrete castings.

PART 2 PRODUCTS

2.1 CURING COMPOUNDS

A. All materials shall meet the ASTM specifications C309, Type 1-D or Federal Specification TT-C-800 and shall have a minimum solids content of 30 percent.

PART 3 EXECUTION

3.1 PROTECTION AND CURING

A. All concrete work shall be protected from the elements, flowing water and from defacement of any nature during construction operations.

B. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury. Protect concrete during the curing period such that the concrete temperature does not fall below the requirements of Section 3.02 -Concrete Temperature. Cure concrete in accordance with paragraph E or paragraph F.

C. When concrete is placed in cold weather as defined in ACI 306, the concrete shall be protected in accordance with requirements of ACI 306, Cold Weather Concreting.

D. When concrete is placed in hot weather as defined in ACI 305, the concrete shall be protected in accordance with the requirements of ACI 305, Hot Weather Concreting.

E. After placing and finishing, use one or more of the following methods to preserve moisture in concrete:

a. Ponding or continuous fogging or sprinkling.

b. Application of mats or fabric kept continuously wet.

c. Continuous application of steam (under 150 degrees Fahrenheit).

d. Application of sheet materials conforming to ASTM C171.

e. Application of a curing compound conforming to ASTM C309 or Federal Specification TT-C-800. Apply the compound in accordance with the manufacturer's recommendation on after water sheen has disappeared from the concrete surface and after finishing operations. The rate of application shall not exceed 200 square feet per gallon. For rough surfaces, apply in two directions at right angles to each other.

F. Keep absorbent forms wet until they are removed. After form removal, cure concrete by one of the methods in paragraph E. Frames may be “cracked” within twenty-four hours and kept moist until they are required to be kept in place per Section 03100.

3.2 CONCRETE TEMPERATURE

A. When the average of the highest and lowest temperature during the period from midnight to midnight is expected to drop below 40 F for more than three successive days, concrete shall be delivered to meet the following minimum temperature immediately after placement:

a. 55 degrees Fahrenheit for sections less than 12 in. in the least dimension

b. 50 degrees Fahrenheit for sections 12 in. to 36 in. in the least dimension

c. 45 degrees Fahrenheit for sections 36 in. to 72 in. in the least dimension

d. 40 degrees Fahrenheit for sections greater than 72 in. in the least dimension

B. The temperature of concrete as placed shall not exceed these values by more than 20 degrees Fahrenheit.

C. These minimum requirements may be terminated when temperatures above 50 degrees Fahrenheit occur during more than half of any 24 hour duration.

D. Unless otherwise specified or permitted, the temperature of concrete as delivered shall not exceed 90 degrees Fahrenheit.

E. During and following curing, do not allow the surface of the concrete to change temperature more than the following:

a. 50 degrees Fahrenheit in any 24-hr period for sections less than 12 in. in the least dimension.

b. 40 degrees Fahrenheit for sections from 12 to 36 in. in the least dimension.

c. 30 degrees Fahrenheit for sections 36 to 72 in. in the least dimension.

d. 20 degrees Fahrenheit for sections greater than 72 in. in the least dimension.

3.3 FINAL CURING

A. Cure for at least the first seven days after placement for all concrete except high early strength concrete, for which the period shall be at least the first three days after placement.

a. Alternatively, moisture retention measures may be terminated when:

i. Tests are made on at least two additional cylinders kept adjacent to the structure and cured by the same methods as the structure and tests indicate 70 percent of the specified compressive strength, f'c, as determined in accordance with ASTM C39.

ii. The temperature of the concrete is maintained at 50 degrees fahrenheit or higher for the time required to achieve 85 percent of f'c in laboratory-cured cylinders representative of the concrete in place.

iii. The strength of concrete reaches f'c as determined by accepted nondestructive methods or laboratory-cured cylinder test results.

B. When one of the curing procedures in Paragraph 3.01-E is used initially, the curing procedure may be replaced by one of the other procedures when concreteis one day old, provided concrete is not permitted to become surface dry at any time.

END OF SECTION

SECTION 03600 – GROUT

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required and install grout complete as shown on the Drawings and as specified herein.

1.2 SUBMITTALS

A. Submit to the Engineer, in accordance with Section 01300, shop drawings and product data showing materials of construction and details of installation for:

a. Commercially manufactured nonshrink cementitious grout. The submittal shall include catalog cuts, technical data, storage requirements, product life, working time after mixing, temperature considerations, conformity to required ASTM standards and Material Safety Data Sheet.

b. Commercially manufactured nonshrink epoxy grout. The submittal shall include catalog cuts, technical data, storage requirements, product life, working time after mixing, temperature considerations, conformity to required ASTM standards and Material Safety Data Sheet.

c. Cement grout. The submittal shall include the type and brand of the cement, the gradation of the fine aggregate, product data on any proposed admixtures and the proposed mix of the grout.

d. Concrete grout. The submittal shall include data as required for concrete and fiber reinforcement as delineated in Section. This includes the mix design, constituent quantities per cubic yard and the water/cement ratio.

B. Samples

a. Samples of commercially manufactured grout products when requested by the Engineer.

b. Aggregates for use in concrete grout when requested by the Engineer.

C. Laboratory Test Reports

a. Submit laboratory test data as required under Section 03300 for concrete to be used as concrete grout.

D. Qualifications

a. Grout manufacturers shall submit documentation that they have at least 10 years' experience in the production and use of the proposed grouts which they will supply.

1.3 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

a. ASTM C531 - Standard Test Method for Linear Shrinkage and Coefficient of Thermal Expansion of Chemical Resistant Mortars, Grouts and Monolithic Surfacings and Polymer Concretes.

b. ASTM C579 - Standard Test Method for Compressive Strength of Chemical Resistant Mortars, Grouts and Monolithic Surfacings and Polymer Concretes.

c. ASTM C827 - Standard Test Method for Change in Height at Early Ages of Cylindrical Specimens from Cementitious Mixtures.

d. ASTM C1107 - Standard Specification for Packaged Dry, Hydraulic-Cement Grout (Nonshrink).

e. ASTM D695 - Standard Test Method for Compressive Properties of Rigid Plastics.

B. U.S. Army Corps of Engineers Standard (CRD)

a. CRD C-621 - Corps of Engineers Specification for Nonshrink Grout.

C. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.4 QUALITY ASSURANCE

A. Qualifications

a. Grout manufacturer shall have a minimum of 10 years experience in the production and use of the type of grout proposed for the work.

B. Services of Manufacturer's Representative

a. A qualified field technician of the nonshrink grout manufacturer, specifically trained in the installation of the products, shall attend the pre-installation conference and shall be present for the initial installation of each type of nonshrink grout. Additional services shall also be provided, as required, to correct installation problems.

C. Field Testing

a. All field testing and inspection services required shall be provided by the Owner. The Contractor shall assist in the sampling of materials and shall provide any ladders, platforms, etc, for access to the work. The methods of testing shall comply in detail with the applicable ASTM Standards.

1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the jobsite in original, unopened packages, clearly labeled with the manufacturer's name, product identification, batch numbers and printed instructions.

B. Store materials in full compliance with the manufacturer's recommendations. Total storage time from date of manufacture to date of installation shall be limitedto 6 months or the manufacturer's recommended storage time, whichever is less.

C. Material which becomes damp or otherwise unacceptable shall be immediately removed from the site and replaced with acceptable material at no additional expense to the Owner.

D. Nonshrink cement-based grouts shall be delivered as preblended, prepackaged mixes requiring only the addition of water.

E. Nonshrink epoxy grouts shall be delivered as premeasured, prepackaged, three component systems requiring only blending as directed by the manufacturer.

1.6 DEFINITIONS

A. Nonshrink Grout: A commercially manufactured product that does not shrink in either the plastic or hardened state, is dimensionally stable in the hardened state and bonds to a clean base plate.

PART 2 PRODUCTS

2.1 GENERAL

A. The use of a manufacturer's name and product or catalog number is for the purpose of establishing the standard of quality desired.

B. Like materials shall be the products of one manufacturer or supplier in order to provide standardization of appearance.

2.2 MATERIALS

A. Nonshrink Cementitious Grout

a. Nonshrink cementitious grouts shall meet or exceed the requirements of ASTM C1107, Grades B or C and CRD C-621. Grouts shall be portland cement based, contain a pre-proportioned blend of selected aggregates and shrinkage compensating agents and shall require only the addition of water. Nonshrink cementitious grouts shall not contain expansive cement or metallic particles. The grouts shall exhibit no shrinkage when tested in conformity with ASTM C827.

i. General purpose nonshrink cementitious grout shall conform to the standards stated above and shall be SikaGrout 212 by Sika

Corp.; Set Grout by Master Builders, Inc.; Gilco Construction Grout by Gifford Hill & Co.; Euco NS by The Euclid Chemical Co.; NBEC Grout by U. S. Grout Corp. or equal.

ii. Flowable (Precision) nonshrink cementitious grout shall conform to the standards stated above and shall be Masterflow 928 by Master Builders, Inc.; Hi-Flow Grout by the Euclid Chemical Co.; SikaGrout 212 by Sika Corp.; Supreme Grout by Gifford Hill & Co.; Five Star Grout by U. S. Grout Corp. or equal.

B. Nonshrink Epoxy Grout

a. Nonshrink epoxy-based grout shall be a pre-proportioned, three component, 100 percent solids system consisting of epoxy resin, hardener, and blended aggregate. It shall have a compressive strength of 14,000 psi in 7 days when tested in conformity with ASTM D695 and havea maximum thermal expansion of 30 x 10^{-6} when tested in conformity withASTM C531. The grout shall be Ceilcote 648 CP by Master Builders Inc.; Five Star Epoxy Grout by U.S. Grout Corp.; Sikadur 42 Grout-Pak by Sika Corp.; High Strength Epoxy Grout by the Euclid Chemical Co. or equal.

C. Cement Grout

a. Cement grouts shall be a mixture of one part portland cement conforming to ASTM C150, Types I, II, or III and 1 to 2 parts sand conforming to ASTM C33 with sufficient water to place the grout. The water content shall be sufficient to impart workability to the grout but not to the degree that it will allow the grout to flow.

D. Concrete Grout

a. Concrete grout shall conform to the requirements of Section 03300 except as specified herein. It shall be proportioned with cement, pozzolan, coarse and fine aggregates, water, water reducer and air entraining agent to produce a mix having an average strength of 2900 psi at 28 days, or 2500 psi nominal strength. Coarse aggregate size shall be ½ in maximum. Slump should not exceed 5-in and should be as low as practical yet still retain sufficient workability.

E. Water

a. Potable water, free from injurious amounts of oil, acid, alkali, organic matter, or other deleterious substances.

PART 3 EXECUTION

3.1 PREPARATION

A. Grout shall be placed over cured concrete which has attained its full design strength unless otherwise approved by the Engineer.

B. Concrete surfaces to receive grout shall be clean and sound; free of ice, frost, dirt, grease, oil, curing compounds, laitance and paints and free of all loose material or foreign matter which may effect the bond or performance of the grout.

C. Roughen concrete surfaces by chipping, sandblasting, or other mechanical means to ensure bond of the grout to the concrete. Remove loose or broken concrete. Irregular voids or projecting coarse aggregate need not be removed if they are sound, free of laitance and firmly embedded into the parent concrete.

a. Air compressors used to clean surfaces in contact with grout shall be the oilless type or equipped with an oil trap in the air line to prevent oil from being blown onto the surface.

D. Remove all loose rust, oil or other deleterious substances from metal embedments or bottom of baseplates prior to the installation of the grout.

E. Concrete surfaces shall be washed clean and then kept moist for at least 24 hours prior to the placement of cementitious or cement grout. Saturation may be achieved by covering the concrete with saturated burlap bags, use of a soaker hose, flooding the surface, or other method acceptable to the Engineer. Upon completion of the 24 hour period, visible water shall be removed from the surface prior to grouting. The use of an adhesive bonding agent in lieu of surfacesaturation shall only be used when approved by the Engineer for each specific location of grout installation.

F. Epoxy-based grouts do not require the saturation of the concrete substrate. Surfaces in contact with epoxy grout shall be completely dry before grouting.

G. Construct grout forms or other leakproof containment as required. Forms shall be lined or coated with release agents recommended by the grout manufacturer. Forms shall be of adequate strength, securely anchored in place and shored to resist the forces imposed by the grout and its placement.

a. Forms for epoxy grout shall be designed to allow the formation of a hydraulic head and shall have chamfer strips built into forms.

H. Level and align the structural or equipment bearing plates in accordance with the structural requirements and the recommendations of the equipment manufacturer.

I. Equipment shall be supported during alignment and installation of grout by shims, wedges, blocks or other approved means. The shims, wedges and blocking devices shall be prevented from bonding to the grout by appropriate bond breaking coatings and removed after grouting unless otherwise approved by the Engineer.

3.2 INSTALLATION - GENERAL

A. Mix, apply and cure products in strict compliance with the manufacturer's

recommendations and this Section.

B. Have sufficient manpower and equipment available for rapid and continuous mixing and placing. Keep all necessary tools and materials ready and close at hand.

C. Maintain temperatures of the foundation plate, supporting concrete, and grout between 40 and 90 degrees F during grouting and for at least 24 hours thereafter or as recommended by the grout manufacturer, whichever is longer. Take precautions to minimize differential heating or cooling of baseplates and grout during the curing period.

D. Take special precautions for hot weather or cold weather grouting as recommended by the manufacturer when ambient temperatures and/or the temperature of the materials in contact with the grout are outside of the 60 and 90 degrees F range.

E. Install grout in a manner which will preserve the isolation between the elements on either side of the joint where grout is placed in the vicinity of an expansion or control joint.

F. Reflect all existing underlying expansion, control and construction joints through the grout.

3.3 INSTALLATION - CEMENT GROUTS AND NONSHRINK CEMENTITIOUS GROUTS

A. Mix in accordance with manufacturer's recommendations. Do not add cement, sand, pea gravel or admixtures without prior approval by the Engineer.

B. Avoid mixing by hand. Mixing in a mortar mixer (with moving blades) is recommended. Pre-wet the mixer and empty excess water. Add premeasured amount of water for mixing, followed by the grout. Begin with the minimum amount of water recommended by the manufacturer and then add the minimum additional water required to obtain workability. Do not exceed the manufacturer's maximum recommended water content.

C. Placements greater than 3-in in depth shall include the addition of clean, washed pea gravel to the grout mix when approved by the manufacturer. Comply with the manufacturer's recommendations for the size and amount of aggregate to be added.

D. Place grout into the designated areas in a manner which will avoid segregation or entrapment of air. Do not vibrate grout to release air or to consolidate thematerial. Placement should proceed in a manner which will ensure the filling of allspaces and provide full contact between the grout and adjoining surfaces. Provide grout holes as necessary.

E. Place grout rapidly and continuously to avoid cold joints. Do not place cement grouts in layers. Do not add additional water to the mix (retemper) after initial stiffening.

F. Just before the grout reaches its final set, cut back the grout to the substrate at a 45 degree angle from the lower edge of bearing plate unless otherwise approved by the Engineer. Finish this surface with a wood float (brush) finish.

G. Begin curing immediately after form removal, cutback, and finishing. Keep grout moist and within its recommended placement temperature range for at least 24 hours after placement or longer if recommended by the manufacturer. Saturate the grout surface by use of wet burlap, soaker hoses, ponding or other approved means. Provide sunshades as necessary. If drying winds inhibit the ability of a given curing method to keep grout moist, erect wind breaks until wind is no longer a problem or curing is finished.

3.4 INSTALLATION - NONSHRINK EPOXY GROUTS

A. Mix in accordance with the procedures recommended by the manufacturer. Do not vary the ratio of components or add solvent to change the consistency of the grout mix. Do not overmix. Mix full batches only to maintain proper proportions of resin, hardener and aggregate.

B. Monitor ambient weather conditions and contact the grout manufacturer for special placement procedures to be used for temperatures below 60 or above 90 degrees F.

C. Place grout into the designated areas in a manner which will avoid trapping air. Placement methods shall ensure the filling of all spaces and provide full contact between the grout and adjoining surfaces. Provide grout holes as necessary.

D. Minimize "shoulder" length (extension of grout horizontally beyond base plate). In no case shall the shoulder length of the grout be greater than the grout thickness.

E. Finish grout by puddling to cover all aggregate and provide a smooth finish. Break bubbles and smooth the top surface of the grout in conformity with the manufacturer's recommendations.

F. Epoxy grouts are self curing and do not require the application of water. Maintain the formed grout within its recommended placement temperature range for at least 24 hours after placing, or longer if recommended by the manufacturer.

3.5 INSTALLATION - CONCRETE GROUT

A. Screed underlying concrete to the grade shown on the Drawings. Provide the surface with a broomed finish, aligned to drain. Protect and keep the surface clean until placement of concrete grout.

B. Remove the debris and clean the surface by sweeping and vacuuming of all dirt and other foreign materials. Wash the tank slab using a strong jet of water. Flushing of debris into tank drain lines will not be permitted.

C. Saturate the concrete surface for at least 24 hours prior to placement of the

concrete grout. Saturation may be maintained by ponding, by the use or soaker hoses, or by other methods acceptable to the Engineer. Remove excess water just prior to placement of the concrete grout. Place a cement slurry immediately ahead of the concrete grout so that the slurry is moist when the grout is placed. Work the slurry over the surface with a broom until it is coated with approximately1/16 to 1/8-in thick cement paste. (A bonding grout composed of 1 part portland cement, 1.5 parts fine sand, an approved bonding admixture and water, mixed to achieve the consistency of thick paint, may be substituted for the cement slurry.)

D. Place concrete grout to final grade using the scraper mechanism as a guide for surface elevation and to ensure high and low spots are eliminated. Unless specifically approved by the equipment manufacturer, mechanical scraper mechanisms shall not be used as a finishing machine or screed.

E. Provide grout control joints as indicated on the Drawings.

F. Finish and cure the concrete grout as specified for cast-in-place concrete.

3.6 SCHEDULE

A. The following list indicates where the particular types of grout are to be used:

a. General purpose nonshrink cementitious grout. Use at all locations where non shrink grout is called for on the plans except for base plates greater in area than 3-ft wide by 3-ft long and except for the setting of anchor rods, anchor bolts or reinforcing steel in concrete.

b. Flowable nonshrink cementitious grout. Use under all base plates greater in area than 3-ft by 3-ft. Use at all locations indicated to receive flowable nonshrink grout by the Drawings. The Contractor, at his/her option and convenience, may also substitute flowable nonshrink grout for general purpose nonshrink cementitious grout.

c. Nonshrink epoxy grout. Use for the setting of anchor rods, anchor bolts and reinforcing steel in concrete and for all locations specifically indicated to receive epoxy grout.

d. Cement grout. Cement grout may be used for grouting of incidental base plates for structural and miscellaneous steel such as post base plates for platforms, base plates for beams, etc. It shall not be used when nonshrink grout is specifically called for on the Drawings or for grouting of primary structural steel members such as columns and girders.

e. Concrete grout. Use for overlaying the base concrete to allow morecontrol in placing the surface grade and elsewhere as shown on the Drawings.

END OF SECTION

SECTION 03740 - MODIFICATIONS AND REPAIR TO EXISTING CONCRETE

PART 1 GENERAL

1.1 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required and cut, chip, repair, demolish, excavate, or otherwise modify parts of existing structures or appurtenances as shown on the sketches and as specified herein.

B. Work under this Section shall include repairs to existing deteriorated concrete. Repairs are separated into three basic categories as follows:

a. Surface deterioration, greater than 1/2” and less than 2” depth, no exposed rebar.

b. Surface deterioration, greater than 2” and less than 3”, with exposed rebar, no rebar deterioration.

c. Surface deterioration, greater than 3” to maximum 16” with exposed, deteriorated and/or missing rebar.

1.2 RELATED WORK

A. Cast-In-Place Concrete is included in Section 03301.

B. Grout is included in Section 03600.

1.3 GENERAL

A. No existing structure or concrete shall be shifted, cut, removed, or otherwise altered until written authorization is given by the Engineer.

B. When removing materials or portions of existing structures and when making openings in existing structures, take all precautions and use all necessary barriers and other protective devices so as not to damage the structures beyond the limits necessary for the new work, nor to damage the structures or contentsby falling or flying debris. Unless otherwise permitted, line drilling will be required in cutting existing concrete.

C. Manufacturer qualifications: The manufacturer of the specified products shall have a minimum of 10 years’ experience in the manufacture of such products and shall have an ongoing program of training, certifying and technically supporting the Contractor’s personnel.

D. Contractor qualifications: Contractors shall complete a program of instruction in the application of the approved manufacturer’s material and provide certification from the manufacturer attesting to their training and status as an approved applicator.

E. Furnish a notarized certificate stating that the materials specified meet the project requirements and submit the manufacturer's current printed literature on the specified product.

1.4 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

a. ASTM D570 - Standard Test Method for Water Absorption of Plastics.

b. ASTM D1653, Method B - Standard Test Method for Water Vaspor Permeability of Organic Coating Films.

c. ASTM D 790 - Standard Test Method for flexural properties of unreinforced and reinforced plastics and electrical insulating materials.

d. ASTM D638 - Standard Test Method for Tensile Properties of Plastics.

e. ASTM D732 - Standard Test Method for Shear Strength of Plastics by Punch Tool

f. ASTM D695 - Standard Test Method for Compressive Properties Rigid Plastics.

g. ASTM C882 - Standard Test Method for Bond Strength of Epoxy-Resin Systems Used With Concrete By Slant Shear

h. ASTM D1525 - Standard Test Method for Vicat Softening Temperature of Plastics.

B. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

PART 2 PRODUCTS

2.1 MATERIALS

A. Epoxy Bonding Compound:

a. The epoxy bonding compound shall be furnished in two components for combining immediately prior to use in accordance with the manufacturer's written instructions and as specified herein.

b. The components of the epoxy resin system shall conform to the following requirements:

i. Component A - Component A shall be a modified epoxy resin of the epichlorohydrin bisphenol A condensation type, containing suitable viscosity control agents and having an epoxide equivalentof 180 to 200.

ii. Component B - Component B shall be primarily a reaction product of an alkyl glycidyl ether and a polyfunctional aliphatic amine containing suitable viscosity agents modified with 2, 4, 6 tri (dimethylamino-methyl) phenol.

iii. The component ratio of B:A shall be 1:1 by volume.

iv. The resultant compound shall be polysulfide free.

c. Properties of Mixed Components:

i. Solids Content: 100 percent by weight

ii. Pot Life: 20 to 30 minutes at 73 Degrees F

iii. Tack-Free Time (thin film): 3 to 5 hrs at 73 Degrees F

iv. Final Cure ASTM D695: 3 days at 73 Degrees F (ASTM D695 percent ultimate strength)

v. Initial Viscosity (A+B): 2400 to 3200 cps minimum at 73 Degrees F

vi. Color mixed: Straw

d. Properties of Cured Material:

i. Neat Material

a. Tensile Strength: 5300 psi minimum at (ASTM D638) 14 days 73 Degrees F cure

b. Tensile Elongation: 4.8 percent at 14 days (ASTM D638 modified) 73 Degrees F cure

c. Compressive Strength: 7000 psi minimum at 28 days 73 Degrees F cure (ASTM D695)

d. Compressive Modulus: 250,000 psi minimum at (ASTM D695)1.0 percent maximum (ASTM D570)

e. Bond Strength: 1500 psi minimum at (Plastic to Hardened) 14 days, 73 Degrees F cure

f. Deflection Temperature: 180 Degrees F minimum (ASTM D1525)

e. Epoxy bonding compound shall be Sikadur Hi-Mod as manufactured by Sika Chemical Corp., Lyndhurst, N.J.; W.R. Grace Co., Cambridge, MA; Adhesive Engineering Co., Lawrence, MA or equal.

B. Epoxy Paste

a. General

i. Epoxy Paste shall be a two-component, solvent-free, asbestos free, moisture insensitive epoxy resin material used to bond dissimilar materials to concrete such as setting railing posts, dowels, anchor bolts and all-threads into hardened concrete and shall comply with the requirements of ASTM C881, Type I, Grade3 and the additional requirements specified herein. It may also be used to patch existing surfaces where the glue line is 1/8-in orless.

b. Material

i. Properties of the cured material:

a. Compressive Properties (ASTM D695): 10,000 psi minimum at 28 days.

b. Tensile Strength (ASTM D638): 3,000 psi minimum at 14 days.

c. Elongation at Break: 0.3 percent minimum.

d. Flexural Strength (ASTM D790 - Modulus of Rupture): 3,700 psi minimum at 4 days.

e. Shear Strength (ASTM D732): 2,800 psi minimum at 14 days.

f. Water Absorption (ASTM D570): 1.0 percent maximum at 7 days.

g. Bond Strength (ASTM C882): 2,000 psi at 14 days moist cure.

h. Color: Concrete grey.

c. Approved manufacturer's include:

i. Overhead applications: Sika Corporation, Lyndhurst, NJ - Sikadur Hi-mod LV 31; Master Builders, Inc., Cleveland, OH - Concresive 1438 or equal.

ii. Sika Corporation, Lyndhurst, N.J. - Sikadur Hi-mod LV 32; Master Builders, Inc., Cleveland, OH - Concresive 1438 or equal.

C. Non-Shrink Precision Cement Grout, Non-Shrink Cement Grout, Non-Shrink Epoxy Grout and Polymer Modified mortar are included in Section 03600 GROUT.

D. Adhesive Capsule type anchor system shall be equal to Molly parabond two part stud and capsule system by Emhart, Temple, PA or the HVA adhesive Anchoring System by Hilti Fastening Systems, Tulsa, OK. The capsule shall consist of a sealed glass capsule containing premeasured amounts of a polyester or vinylester resin, quartz sand aggregate and a hardener contained in a separate vial within the capsulre.

E. Crack Repair Epoxy Adhesive

a. General

i. Crack Repair Epoxy Adhesive shall be a two-component, solvent-free, moisture insensitive epoxy resin material suitable for crack grouting by injection or gravity feed. It shall be formulated for the specific size of opening or crack being injected.

b. Material

i. Properties of the cured material

a. Compressive Properties (ASTM D695): 10,000 psi minimum at 28 days.

b. Tensile Strength (ASTM D638): 5,300 psi minimum at 14 days. Elongation at Break - 2 to 5 percent.

c. Flexural Strength (ASTM D790 - Modulus of Rupture): 12,000 psi minimum at 14 days (gravity); 4,600 psi minimum at 14 days (injection)

d. Shear Strength (ASTM D732): 3,700 psi minimum at 14 days.

e. Water Absorption (ASTM D570 - 2 hour boil): 1.5 percent maximum at 7 days.

f. Bond Strength (ASTM C882): 2,400 psi at 2 days dry;2,000 psi at 14 days dry plus 12 days moist.

PART 3 EXECUTION

3.1 GENERAL

A. Cut, chip, repair, reuse, demolish, excavate or otherwise modify parts of the existing structures or appurtenances, as indicated on the sketches, specified herein, or necessary to permit completion of the Work. All work shall comply with

other requirements of this of Section and as shown on the sketches.

B. All commercial products specified in this Section shall be stored, mixed and applied in strict compliance with the manufacturer's recommendations.

C. In all cases where concrete is repaired in the vicinity of an expansion joint or control joint the repairs shall be made to preserve the isolation between components on either side of the joint.

D. When drilling holes for dowels/bolts at new or existing concrete, drilling shall stop if rebar is encountered. As approved by the Engineer, the hole location shall be relocated to avoid rebar. Rebar shall not be cut without prior approval by the Engineer. Where possible, rebar locations shall be identified prior to drilling using "rebar locators" so that drilled hole locations may be adjusted to avoid rebar interference.

3.2 REPAIRING EXISTING CONCRETE

A. Remove all deteriorated materials, dirt, oil, grease, and all other bond inhibiting materials from the surface by mechanical means, i.e. - waterblasting, sandblasting, grinding, etc, as approved by the Engineer. Be sure the areas are not less than 1/2-in in depth. Irregular voids or surface stones need not be removed if they are sound, free of laitance, and firmly embedded into parent concrete, subject to the Engineer's final inspection.

B. If reinforcing steel is exposed, it must be mechanically cleaned to remove all contaminants, rust, etc, as approved by the Engineer. If half of the diameter of the reinforcing steel is exposed, chip out behind the steel. The distance chipped behind the steel shall be a minimum of 1/2-in. Reinforcing to be saved shall not be damaged during the demolition operation.

C. After cleaning the exposed reinforcement it is determined that more than ¼ of the effective cross sectional area has been lost, chip the concrete back along the bar a minimum of 18 bar diameters in each direction from the damaged section and replace the bar with new reinforcement of similar size. Lap the new bar 18 diameters to the exposed non-corroded section. Alternatively, contractor may drill and epoxy grout new rebar in to sound concrete adjacent to deteriorated bar. Embed new bar per grout manufacturer’s requirements.

D. Thoroughly wash the roughened concrete surfaces and keep the surfaces saturated for at least 6 hours before placing new concrete. All free water shall be removed prior to placing the concrete. An epoxy bonding compound as specified may be used in lieu of saturating surface for 6 hours in accordance with repair material manufacturer’s requirements.

E. Repair mortar, shall be placed/pumped to a thickness to match the existing surface.

a. Repair mortar shall be Nonshrink cementitous grout as specified in Section 03600.

F. When the finish surface is not specified to be lined the color of new concrete in the exposed surfaces shall match the color of the existing adjoining concrete as closely as possible.

3.3 CRACK REPAIR

A. Cracks on horizontal surfaces shall be repaired by gravity feeding crack sealant into cracks per manufacturer's recommendations. If cracks are less than 1/16-in in thickness they shall be pressure injected.

B. Cracks on vertical surfaces shall be repaired by pressure injecting crack sealant through valves sealed to surface with crack repair epoxy adhesive per manufacturer's recommendations.

END OF SECTION

ATTACHMENT 8
CLOSING DOCUMENTS

As-Built Drawings:

1. Cover sheet, indicating sheet index, location sketch, etc.

2. Two sets of signed and sealed as-built drawings (size 24” x 36”)

3. One digital copy of the following:

    a. As-built drawings of all infrastructure improvements constructed, in Adobe PDF format and AutoCAD release 2006 or higher format approved by the City CAD Coordinator. As built must be in NAVD 88 State Plane Coordinates. Layers must be converted to the City of Fort Lauderdale standard layering format.

    b. Email from CADD Coordinator with a File Number and the approval.

Contractor’s Requirements:

1. Cut Sheets.

2. Operation Maintenance Manuals for appropriate equipment (Lighting and Switchgear). Documents shall be provided as per Contract section “Submittal of Project Warranties”.

3. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8 ½” x 11” paper.

4. Identify each binder on the front and spine with the typed or printed titled “Warranties”, Project Name, and Name of the Contractor.

5. Contractor to provide Warranty Electronic File of all documents including bonds package into a single, indexed PDF file with links enabling navigation to each item.

6. Letter of Warranty.

7. Pictures of the project completion furnished to the City.

8. Letter of Certification from Engineering of Record indicating the project was built as per the approved plans and specifications.

Legal Documents:

1. Affidavit on Behalf of Contractor.

2. Warranty (effective from the date of City’s acceptance).

3. Full Release of Lien from Contractor.

4. Full Release of Lien from Subcontractor (if applicable).

5. Full Release of Lien by Suppliers (if applicable).
6. Disadvantaged Business Enterprise Compliance (if applicable).
7. Consent of Surety Bond from Contractor.

Internal Documents:

1. Scanned copy of Final Pay Application Package
2. Contractor Performance Evaluation Form

CLOSING DOCUMENTS TEMPLATES

1. CONTRACTOR PERFORMANCE EVALUATION FORM

CONTRACTOR PERFORMANCE EVALUATION FORM

Rankings will be given a score from 1 to 4; one being the lowest and 4 being the highest. Rankings will be scored out of 20 possible points. A score under 14 points (70%) will be considered deficient. If a deficient score is obtained, the contractor shall have no more than 60 days to bring the score above 16 points (80%) or the contractor may be removed from issuance of future task orders on the project.

Contractor may dispute rankings in writing within 5 business days of receipt of Contractor Evaluation. Disputes will be reviewed by City Staff. Staff will meet with the Contractor within 14 days of receipt of dispute notice.

Performance Evaluation Criteria:

Quality of Work: Contractor maintains site access and meets MOT requirements. Contractor completes construction according to technical specifications. Completed work requires minimal rework. Contractor performs rework within 30 days for most items or the same day if the rework directly affects a resident's ability to utilize sanitary sewer service in their home. Work is performed using specified and approved materials. Contractor is available for testing when scheduled.

Safety: Contractor is in compliance with all required laws, ordinances and procedures. Contractor implements controls to protect the public.

Responsiveness: Contractor notifies the proper authorities on any affected utilities prior to commencing work. Contractor provides advanced notice of any utility shutdowns that disturb the public and utilize neighborhood flyers and door hangers in the City approved format. Contractor provides timely restoration in accordance with contract provisions. Contractor is prompt in efforts to resolve customer complaints.

Administrative: Contractor provides daily logs to the inspector after each work day. Contractor provides post CCTV data within 2 weeks of lining. Contractor submits complete schedules prior to commencement of work in MS project format. Contractor submittals are complete, timely, accurate, and use the appropriate forms. Contractor submits accurate pay applications.

Coordination: Contractor provides experienced supervision on project site. Contractor cooperates with other contractor activity in the project area. Contractor verifies utility locations. Contractor coordinates all subcontracted work. Contractor manages site drainage and dewatering in accordance with the contract requirements.

Contractor:		**Project Name:**	
Task Order #:		**Date:**	
Item Notes	**Reviewer**	**Ranking**	**Notes**
Quality of Work			
Safety			
Responsiveness			
Administrative Coordination			

CONTRACTOR'S BIDDING
PERFORMANCE EVALUATION FORM

Rankings will be given based on participation of the total biddings the Contractor has been invited to participate. The City will not consider for the next Bid, a contractor that has been preselected when the Participation Percentage (PP) is lower than 75%.

Item No	Bid No	Project Name	Participation	
			YES	NOT
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

*PP=(Total of projects Contractor participated / Total of Projects Contractor was invited) * 100*

CITY OF FORT LAUDERDALE TRANSPORTATION AND MOBILITY DEPARTMENT

WAIVER AND RELEASE OF LIABILITY FORM

I, _____, the owner or agent representing the owner ("Owner") of the improved real property described below ("Property"), do state that I have the authority to execute this Waiver and Release of Liability Form ("Waiver & Release Form") and expressly authorize the City of Fort Lauderdale and its employees, officials, officers, agents and contractors ("City") to enter upon the Property to perform the below described work under the following conditions:

1.This Waiver & Release Form authorizes the City to enter upon the Property with any and all personnel and equipment deemed necessary by the City in order to perform the following work ("Work"):

The proposed improvements include the following: installation of concrete sidewalk, curb and gutter, landscaping, signing and marking, irrigation system, site furnishings, and milling and resurfacing.

2.Owner agrees, by signing this Waiver & Release Form, that Owner hereby releases City, its officers, agents, directors, and employees, from any and all liability, damages, injuries, claims, demands, causes of actions or obligations, including, but not limited to, attorney's fees, to the extent caused by the sole, contributory or gross negligence of the City and/or its Contractor (if applicable), arising out of or relating to the entry on the Property and/or the performance of Work performed by the City and/or its Contractor.

I have had an opportunity to read this Acceptance of Work & Release of Liability Form and fully understand its terms and that I have given up rights by signing it, and hereby sign it voluntarily:

Signed:

_____
Print Name of Property Owner.
Enter Owner Daytime Telephone Number.
Enter Property Address.
Dated this Day_____.

FINAL RELEASE OF LIEN BY CONTRACTOR

STATE OF_____ :

COUNTY OF_____ :

The undersigned contractor, under a certain contract with City of Fort Lauderdale, dated _____ , 20 _____ , in connection with the following public work:

CONTRACT NO._____

does hereby acknowledge receipt of the full contract price of $_____ , as modified by change order, addenda, etc., and hereby releases and discharges all liens, lien rights, claims or demands of any kind whatsoever which the undersigned contractor now has or might have against City of Fort Lauderdale arising out of said contract or in connection with the aforesaid public improvement.

That all claims, liens or other entitlements for labor, services, materials or supplies furnished, in connection with the aforesaid improvement have been fully paid. That an affidavit on behalf of the contractor, signed by_____ , has been furnished to City of Fort Lauderdale, as well as final releases of lien executed by all materialmen and subcontractors regardless of their tier.

IN WITNESS WHEREOF, the contractor has caused this release to be executed in its name and under its seal by its proper officers, this the_____day of_____ , 20___ .

Signed, Sealed and Delivered in the Presence of:

(Exact Name of Contractor)

By
(SEAL)
Title
(Whether President, Vice President, Sole Proprietor or Partner)

STATE OF _____

COUNTY OF_____

Before me, the undersigned Notary Public, personally appeared, _____ known to me to be the _____ of _____ and on behalf of said contractor, for the uses and purposes therein expressed.

IN WITNESS WHEREOF, I have hereunto set my hand and official notarial seal at _____ , this the _____ day of_____ 20__
NOTARY PUBLIC

(SEAL) My Commission expires:_____

AFFIDAVIT ON BEHALF OF CONTRACTOR

STATE OF
COUNTY OF

The undersigned, first being duly sworn, deposed and says on oath as follows:

(1) That_____ is contractor in a certain contract with City of Fort Lauderdale, dated_____, 20___in conjunction with the following public work:

(2) That affiant is _____ of the above-named contractor.
(President, Vice President, Sole Proprietor or Partner)

(3) That the work contracted to be performed has been performed and completed in accordance with the plans and specifications, addenda, change orders and contract documents, such work having been completed on _____.

(4) That all persons who furnished labor, supplies or materials or did work in connection with such improvements set out in the contract have been paid in full, including all subcontractors

(5) This affidavit is made for the purpose of obtaining final payment by the contractor from the City of Fort Lauderdale.

Sworn to and subscribed before me,
This the_____day of _____, 20_ , A.D.

Notary Public_____
(SEAL)

My Commission expires: _____

SUBCONTRACTOR'S FINAL RELEASE OF LIEN

STATE OF
COUNTY OF

The undersigned furnished services, labor, materials or supplies in connection with the following public work:

_____

_____

_____

in which _____
was General Contractor.

The undersigned acknowledges that it or he has received payment in full for such services. labor, materials or supplies, and does hereby release and satisfy all liens, lien rights, claims or demands whatsoever which the undersigned now has or might have against City of Fort Lauderdale or the contractor in connection with the above-described public work.

IN WITNESS WHEREOF, this instrument is executed in the name of the undersigned and under its seal by its proper officers, this the_____ , day of_____ , 20___.

SIGNED, SEALED AND DELIVERED
In the presence of:

_____
(Exact Name of Concern Furnishing Services, Labor, Materials, or Supplies)

By
(Name of Person Signing)
Title_____
(Whether President, Vice President, Sole Proprietor or Partner)

STATE OF _____

COUNTY OF _____

Before me, the undersigned Notary Public personally appeared
_____, Who as the proper officer executed the foregoing Release of Lien for and on behalf of the person or corporation furnishing services, labor, materials, or supplies, and he acknowledged before me that he executed same for the purposes therein expressed.

IN WITNESS WHEREOF I have hereunto set my hand and official notarial seal at_____
this the _____ day _____of , 20_____ .
(SEAL)

_____
(Notary Public)
My commission expires:_____

SUBCONTRACTOR IDENTIFICATION FORM

This form shall be completed by all City of Fort Lauderdale prime Contractors or Engineers who subcontract out any portion of his/her City contract/agreement. The form shall be forwarded to the City of Fort Lauderdale's Public Services Department (Engineering and Architectural Services) with the prime Contractor's/Consultant's final pay request. A separate form is to be completed and submitted for each subcontractor. Please telephone (954) 828-5057 or 828-5083 if you have any questions regarding this form.

1) CITY OF FORT LAUDERDALE PROJECT NUMBER.

2) PROJECT DESCRIPTION

(2) SUBCONTRACTOR_____ Business Name Address Telephone No.

(3) SUBCONTRACTOR'S PRINCIPAL OFFICER

5) CLASSIFICATION OF WORK SUBCONTRACTED OUT

6) COST OF WORK SUBCONTRACTED OUT

7) Please check the item(s), which properly identify the ownership status of the subcontractor's firm. ( ) Subcontractor firm is not a MBE or WBE.
( ) Subcontractor firm is MBE, as at least 51 percent is owned and operated by one or more socially and economically-disadvantaged individuals.

_____ American Indian _____ Asian ___Black ___Hispanic____White

( ) Subcontractor firm is a WBE, as at least 51 percent if owned and operated by one or more women.
_____ American Indian _____ Asian ___Black ___Hispanic ____White

8) PRIME CONTRACTOR

_____ _____
NAME & TITLE OF PRIME CONTRACTOR'S REPRESENTATIVE COMPLETING THIS FORM (Please Print) TELEPHONE NO.

SIGNATURE_____ DATE
PRIME CONTRACTOR'S REPRESENTATIVE

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Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:1 COVER SHEET July 30, 2025 10:41:39am K:\Ftl_civil\043 Jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\1 COVER SHEET.dwg

CITY OF FORT LAUDERDALE

PROJECT #12507

NW 5TH AVENUE

STREETSCAPE IMPROVEMENTS

NW 5TH AVENUE, BETWEEN NW 6TH STREET & NW 7TH STREET

FORT LAUDERDALE, FLORIDA

PREPARED BY:

Kimley»Horn

8201 PETERS ROAD, SUITE 2200, PLANTATION, FL 33324
PHONE: 954-535-5100 FAX: 954-739-2247
WWW.KIMLEY-HORN.COM REGISTRY NO. 35106

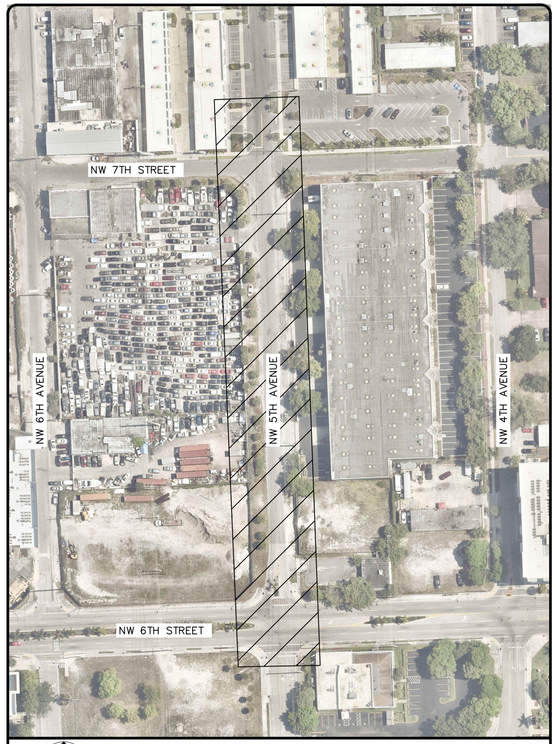
BCTED REF NO.: 241010061

THE FOLLOWING ITEMS ARE NOT REVIEWED OR ACCEPTED BY BROWARD COUNTY:

1. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION'S REVIEW DOES NOT INCLUDE A REVIEW AND ACCEPTANCE OF THE PROJECT'S DESIGN OR OPERATION. THESE ITEMS ARE TO BE REVIEWED AND APPROVED BY THE CITY ENGINEER.

2. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION DOES NOT REVIEW AND APPROVE, OR INSPECT AND ACCEPT THE FOLLOWING ITEMS FOR MAINTENANCE: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, ADVANCED WARNING PAVEMENT MARKINGS FOR SPEED TABLES, BLINKER SIGNS, RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGNS AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK OR ASPHALT WORK.

3. THE CITY ENGINEER IS RESPONSIBLE FOR THE REVIEW AND APPROVAL OF THE DESIGN AND OPERATION OF THE PROJECT, AND FOR THE INSPECTION AND ACCEPTANCE OF THE FOLLOWING ITEMS THAT WILL BE MAINTAINED BY THE CITY: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, PAVEMENT MARKINGS ON OR ADJACENT TO PAINTED ASPHALT, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, ADVANCED WARNING PAVEMENT MARKINGS FOR SPEED TABLES, BLINKER SIGNS, RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGNS AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK AND ASPHALT WORK.



LOCATION SKETCH

PROJECT #12507
NW 5TH AVENUE STREETSCAPE IMPROVEMENTS

NW 5TH AVENUE, BETWEEN NW 6TH STREET & NW 7TH STREET

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

FORT LAUDERDALE CITY COMMISSION

DEAN J. TRANTALIS	MAYOR
JOHN C. HERBST	COMMISSIONER - DISTRICT I
STEVEN GLASSMAN	COMMISSIONER - DISTRICT II
PAMELA BEASLEY-PITTMAN	COMMISSIONER - DISTRICT III
BEN SORENSEN	COMMISSIONER - DISTRICT IV

PROJECT MANAGER	JOB TITLE	PHONE NO.
BRIGHTNY DORELUS, PMP	PROJECT MANAGER II	(954) 828-6885
JILL PRIZLEE	CHIEF ENGINEER	(954) 828-5962
CARLOS FLORIAN, P.E.	ENGINEER OF RECORD	(954) 535-5137

DATE: 7/30/2025

CAD FILE: 1 - COVER SHEET

DRAWING FILE No.:

BID SET

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:2 GENERAL NOTES July 30, 2025 10:41:46am K:\Ftl_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\2 GENERAL NOTES.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

GENERAL NOTES:

1. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES AT ALL TIMES.
2. REFER TO SPECIFICATIONS FOR DETAILED REQUIREMENTS FOR SEQUENCE OF CONSTRUCTION AND CONSTRUCTION CONSTRAINTS.
3. SITE INFORMATION HAS BEEN PROVIDED BY SITE SURVEY PREPARED BY THE CITY OF FORT LAUDERDALE, DATED APRIL 2024.
4. HORIZONTAL CONTROL IS REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83). VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1929 (NGVD 29).
5. RECORD DRAWINGS USED FOR EXISTING FEATURES. RECORD DRAWINGS MAY BE OBTAINED FROM THE OWNER UPON REQUEST.
6. CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND DIMENSIONS WHERE NEW WORK WILL MATCH EXISTING. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE COMMENCEMENT OF WORK.
7. CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FROM THE APPROPRIATE AUTHORITIES, DEPARTMENTS, AND/OR AGENCIES HAVING JURISDICTION PRIOR TO COMMENCING WORK.
8. ALL PRACTICAL AND NECESSARY EFFORTS SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT UNNECESSARY TREE REMOVAL AND/OR DAMAGE.
9. THE LOCATION OF EXISTING UTILITIES HAS BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT GUARANTEED. THEREFORE THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
10. UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEY INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE TO THEM. THE CONTRACTOR SHALL CONTACT SUNSHINE 811 AT PHONE NUMBER 811 OR 1-800-432-4770 TO REQUEST UNDERGROUND UTILITY LOCATION MARK-OUT AT LEAST TWO (2) WORKING DAYS BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO BEGINNING EXCAVATION, INCLUDING SOIL DRILLING. THE CONTRACTOR SHALL ALSO CONTACT AND REQUEST UTILITY LOCATION MARK-OUT FROM BURIED UTILITY OWNERS WITH UTILITIES ON THE PROJECT SITE THAT ARE NOT PARTICIPANTS OF SUNSHINE 811.
11. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN OR AROUND EXISTING CITY-OWNED UTILITIES. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWO BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION WITHIN TEN FEET OF A CITY-OWNED UTILITY SO THAT A CITY REPRESENTATIVE MAY BE PRESENT.
12. CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING PAVEMENT, STRUCTURES, AND UTILITIES THAT ARE NOT INDICATED TO BE DEMOLISHED OR REMOVED. ANY DAMAGE TO EXISTING PAVEMENT, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
13. WHERE PROPOSED WORK IS IN THE VICINITY OF UTILITY POLES, SUCH THAT SUPPORT OF THE POLE(S) WILL BE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY OF THE WORK. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE UTILITY FOR SUPPORT OF THE POLE.
14. DURING EXCAVATION AND PLACEMENT OF UTILITIES THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHEET PILING, SHORING AND/OR BRACING DESIGNS AS MAY BE NECESSARY TO COMPLY WITH THESE REGULATIONS.
15. GROUNDWATER FROM ALL DEWATERING OPERATIONS SHALL BE DISCHARGED TO AN ENVIRONMENTALLY ACCEPTABLE LOCATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.
16. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS GENERATED DURING THE PROJECT OFF SITE AT A PROPERLY PERMITTED DISPOSAL FACILITY.
17. FOR REFERENCE MONUMENTS, SEE SITE SURVEY PREPARED BY THE CITY OF FORT LAUDERDALE.
18. THE CONTRACTOR IS REQUIRED TO OBTAIN WRITTEN APPROVAL FROM THE ENGINEER FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.
19. THE UNDERGROUND CONTRACTOR SHALL MINIMIZE THE WORK AREA AND WIDTH OF TRENCHES TO AVOID DISTURBANCES OF NATURAL VEGETATION. SPOIL FROM TRENCHES SHALL BE PLACED ONLY ON PREVIOUSLY CLEARED AREAS, EXISTING RIGHT-OF-WAY OR APPROVED EASEMENT. THE CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY TREES OR SHRUBS WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
20. ALL RESTORATION SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION OVER THE RIGHT-OF-WAY WHERE THE PROJECT IS CONSTRUCTED.
21. ALL LOOP DETECTORS, COMMUNICATION CABLES AND CONDUITS, IF DAMAGED BY THE CONTRACTOR'S ACTIVITIES, SHALL BE REPAIRED AND/OR REPLACED IN ACCORDANCE WITH BCTED AND FDOT REQUIREMENTS. COSTS SHALL BE INCIDENTAL.
22. THE CONTRACTOR MUST INFORM THE CITY AT LEAST 48-HOURS IN ADVANCE OF CONSTRUCTION, IN WRITING IF ANY CONFLICT IS DISCOVERED DURING POT HOLE OPERATIONS FOR CLARIFICATION BY THE CITY.
23. CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE EXISTING RIGHTS-OF-WAY.
24. ALL WORK WITHIN STATE DEPARTMENT OF TRANSPORTATION (FDOT) RIGHT-OF-WAYS SHALL BE IN CONFORMANCE WITH FDOT SPECIFICATIONS AND PERMIT REQUIREMENTS.
25. ALL WORK WITHIN BROWARD COUNTY RIGHT-OF-WAYS SHALL BE IN CONFORMANCE WITH THE BROWARD COUNTY MINIMUM STANDARDS AND/OR REQUIREMENTS.
26. CONTRACTOR SHALL COMPLY WITH ALL LOCAL CITY, COUNTY AND STATE REGULATIONS PERTAINING TO THE CLOSING OF PUBLIC STREETS FOR USE OF TRAFFIC DURING CONSTRUCTION.
27. CONTRACTOR SHALL SUBMIT MOT PLANS FOR APPROVAL BY THE CITY WHEN WORKING WITHIN THE PUBLIC RIGHT-OF-WAY.
28. STATIONS SHOWN ON THE DRAWINGS ARE BASED ON THE ESTABLISHED BASELINE AND SHALL NOT BE CONSIDERED AS DISTANCES OR AS A MEASURE OF THE LINEAR FOOTAGE OF PIPE TO BE INSTALLED.
29. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAY OR WALKWAY SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
30. TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS SHALL NOT BE LEFT OPEN DURING NIGHT TIME HOURS WITHOUT ADEQUATE PROTECTION.
31. CONTRACTOR SHALL PROMPTLY REPAIR AND RESTORE EXISTING PAVEMENT, SIDEWALKS, CURBS, DRIVEWAYS, PIPES, RESIDENTIAL AND COMMERCIAL SPRINKLER LINES, CONDUIT, CABLES, ETC. AND LANDSCAPE AREAS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES.
32. CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AS REQUIRED BY AGENCIES HAVING JURISDICTION OVER THE PROJECT AND/OR WHEN REQUIRED FOR PUBLIC SAFETY.
33. CONTRACTOR SHALL ADJUST TO GRADE ALL EXISTING UTILITY CASTINGS INCLUDING VALVE BOXES, MANHOLES, HAND HOLES, PULL BOXES, INLETS AND SIMILAR STRUCTURES IN CONSTRUCTION AREA TO BE OVERLAYED WITH ASPHALT.
34. EXISTING TRAFFIC SIGNS SHALL BE RESET UPON COMPLETION PER BROWARD COUNTY TRAFFIC ENGINEERING STANDARDS. COST SHALL BE CONSIDERED INCIDENTAL. CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED TRAFFIC SIGNAL LOOPS PER BROWARD COUNTY TRAFFIC ENGINEERING SPECIFICATIONS; COST SHALL BE INCIDENTAL.
35. CONTRACTOR SHALL RESTORE EXISTING PAVEMENT AND PAVEMENT MARKINGS/SIGNAGE TO ORIGINAL PRE-CONSTRUCTION CONDITION OR AS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
36. ALL CONSTRUCTION WITHIN FDOT R/W MUST CONFORM WITH FDOT SPECIFICATIONS, STANDARDS, AND PERMIT REQUIREMENTS. NO WORK SHALL COMMENCE WITHIN FDOT R/W's WITHOUT AN FDOT PERMIT. FULL LANE WIDTH RESTORATION TO MATCH EXISTING PAVEMENT SECTION IS REQUIRED IN ACCORDANCE WITH FDOT STANDARDS FOR PROPOSED WORK WITHIN FDOT R/W.
37. THE CONTRACTOR SHALL SUBMIT ALL REQUIRED SHOP DRAWINGS FOR CITY APPROVAL PRIOR TO ORDERING MATERIALS AND INSTALLATION.
38. EXISTING GAS MAINS SHALL BE IDENTIFIED BY THE APPROPRIATE UTILITY, PRIOR TO START OF CONSTRUCTION.

TRAFFIC CONTROL PLAN NOTES:

1. THE TRAFFIC CONTROL PLANS FOR THE PROJECT SHALL COMPLY WITH THE LATEST EDITION OF THE ROADWAY AND TRAFFIC DESIGN STANDARDS, INDEX NO. 600-660. MUTCD AND THE STANDARD SPECIFICATIONS. THE CONTRACTOR'S RESPONSE TIME TO ALL REPORTED MALFUNCTIONS OF TRAFFIC SIGNALS WITHIN THE PROJECT LIMITS SHALL BE NO MORE THAN TWO (2) HOURS AND SHALL RESTORE ALL MALFUNCTIONING TRAFFIC SIGNAL EQUIPMENT TO ITS LEVEL OF OPERATION PRIOR TO THE MALFUNCTIONING WITHIN TWENTY-FOUR (24) HOURS. DURING THIS TIME THE CONTRACTOR SHALL PROVIDE AT HIS EXPENSE TEMPORARY TRAFFIC CONTROL DEVICES, FLAGGLER PERSONNEL AND LAW ENFORCEMENT PERSONNEL AS NECESSARY TO MAINTAIN A SAFE AND EFFICIENT FLOW OF TRAFFIC AT THE AFFECTED WORK ZONE. THE ENGINEER OR THE CITY OF FORT LAUDERDALE SHALL APPROVE ALL MODIFICATIONS PRIOR TO THEIR IMPLEMENTATION.
2. THE CONTRACTOR SHALL MAINTAIN PROPER OPERATION OF ALL TRAFFIC SIGNAL LOOP ASSEMBLIES AND LOOP DETECTORS WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL CORRECT ALL LOOP ASSEMBLY/DETECTOR MALFUNCTIONS WITHIN 24 HOURS OF NOTIFICATION OF SUCH MALFUNCTIONS BY THE ENGINEER.
3. THE AGENCY RESPONSIBLE FOR MAINTENANCE OF THE TRAFFIC SIGNALS AND RELATED EQUIPMENT IS BROWARD COUNTY TRAFFIC ENGINEERING.
4. A REGULATORY SPEED OF 25 MPH SHALL BE POSTED WITHIN THE LIMITS OF THE WORK ZONE.
5. EXISTING SIGNS AND PAVEMENT MARKINGS THAT CONFLICT WITH CONSTRUCTION SIGNS AND MARKINGS SHALL BE REMOVED DURING CONSTRUCTION. ALL EXISTING SIGNS THAT ARE REMOVED SHALL BE STOCKPILED IN A SECURE PLACE AND REINSTALLED AFTER CONSTRUCTION. REMOVE AND REPLACE ANY GROUND MOUNT SIGN BY USE OF INDEX NO. 611.
6. THE CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE PATTERNS AND PREVENT ADVERSE FLOODING OF THE TRAVEL LANES DURING CONSTRUCTION.
7. THE CONTRACTOR SHALL OBTAIN WRITTEN AUTHORIZATION FROM THE CITY OF FORT LAUDERDALE FOR ANY AND ALL CONSTRUCTION ACTIVITIES TO BE PERFORMED AT NIGHT. NO LANE CLOSURE SHALL BE ALLOWED BETWEEN THE HOURS OF 6:00 AM TO 9:00 AM AND 4:00 PM TO 7:00 PM, MONDAY THROUGH FRIDAY UNLESS APPROVED BY THE ENGINEER.
8. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE UTILITY COMPANY TWO (2) BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION INVOLVING ITS UTILITIES SO THAT A COMPANY REPRESENTATIVE CAN BE PRESENT. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR DURING CONSTRUCTION. SEE SPECS FOR LIST OF UTILITY COMPANIES.
9. TRAFFIC CONTROL ON ALL COUNTY RIGHTS-OF-WAY SHALL MEET THE ADDITIONAL REQUIREMENTS OF THE BROWARD COUNTY ENGINEERING DEPARTMENT.
10. CONTRACTOR SHALL PREPARE AND SUBMIT MAINTENANCE OF TRAFFIC PLAN (MOT) WHERE REQUIRED BY FEDERAL, STATE, COUNTY, OR LOCAL AGENCIES HAVING JURISDICTION. CONTRACTOR SHALL OBTAIN ALL REQUIRED APPROVALS AND PERMITS ASSOCIATED WITH THE MOT'S. ALL MOT'S TO BE ATS CERTIFIED.
11. THE CONTRACTOR SHALL ALSO COORDINATE THE CONSTRUCTION SCHEDULE WITH FDOT, BROWARD COUNTY AND THE CITY OF FORT LAUDERDALE TO AVOID LANE CLOSURES WHICH WOULD ADVERSELY AFFECT TRAFFIC DURING RUSH HOUR.

LEGEND

ABBREVIATIONS

C.L.F.	=	CHAIN LINK FENCE
CMP	=	CORRUGATED METAL PIPE
CONC.	=	CONCRETE
F.H.	=	FIRE HYDRANT
GAS	=	GAS MAIN
INV.	=	PIPE INVERT
OHW	=	OVERHEAD WIRES
R/W	=	RIGHT-OF-WAY LINE
RCP	=	REINFORCED CONCRETE PIPE
SAN	=	SANITARY SEWER PIPE
SMH	=	SANITARY MANHOLE
S.V.	=	SEWER VALVE
T.O.P.	=	TOP OF PIPE
UNK.	=	UNKNOWN TREE TYPE
U.T.O.	=	UNABLE TO OBTAIN DATA
U.V.	=	UNKNOWN VALVE
W.V.	=	WATER VALVE
B.C.H.C.E.D.	=	BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DEPARTMENT.

UTILITY CONTACTS:

TECO PEOPLES GAS
702 NORTH FRANKLIN STREET
TAMPA, FL 33602
PHONE: (813) 275-3710, EX. 53710
CONTACT: CHEYENNE THOMPSON

FLORIDA POWER & LIGHT COMPANY
2455 PORT WEST BOULEVARD,
CRS/PDC BUILDING-A
RIVIERA BEACH, FL 33407
PHONE: (386) 586-6403
CONTACT: JAMIE PURNELL

AT&T DISTRIBUTION
600 NW 79TH AVENUE, ROOM 356
MIAMI, FL 33126
PHONE: (786) 792-5464
CONTACT: JUANA CURTIS

COMCAST
6565 NOVA DRIVE
DAVIE, FL 33317
PHONE: (786) 221-1322
CONTACT: RICARDO DAVIDSON

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BCTED REF NO.: 241010061

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

PREPARED BY:
Kimley»Horn
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ENGINEER: CARLOS FLORIAN, P.E.
REG. No: 80500
DATE: 7/30/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
GENERAL NOTES

SHEET NO. 2 OF 28

CAD FILE: 2 – GENERAL NOTES

DRAWING FILE NO.

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PUBLIC WORKS DEPARTMENT
ENGINEERING
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

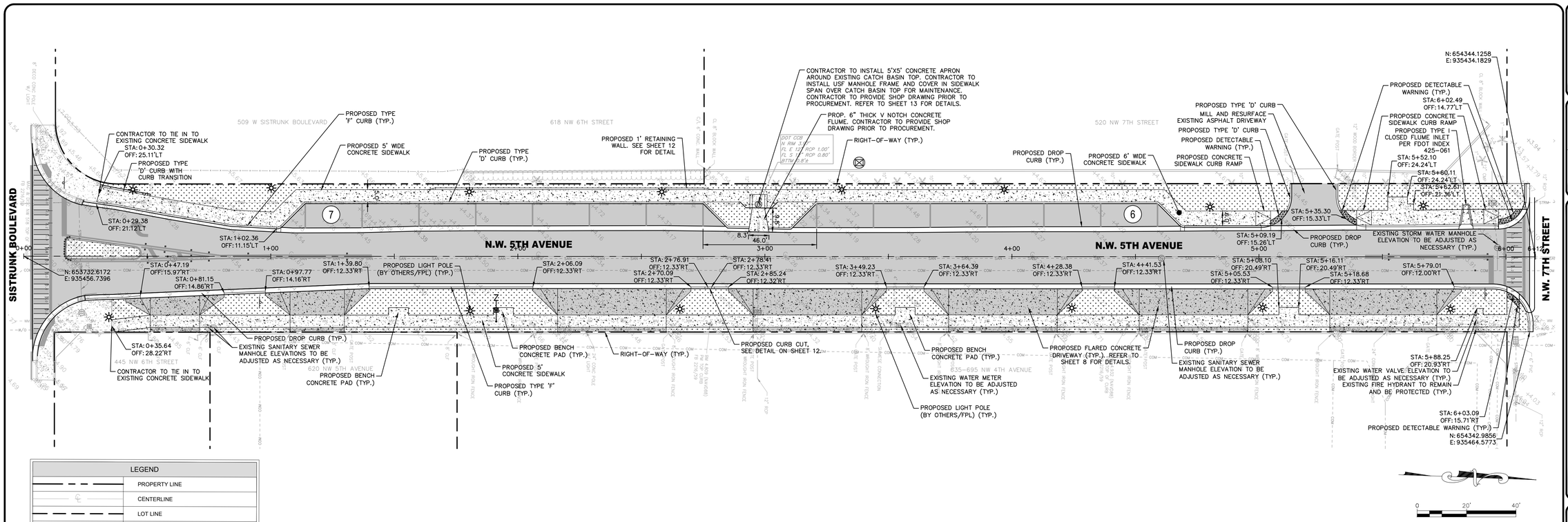
DRAWN BY: AC	DATE: 4/16/2024		
DESIGNED BY: WN	SCALE: 1" = 20'		
CHECKED BY:	FIELD BOOK:		

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12507
NW 5TH AVENUE STREETSCAPE IMPROVEMENTS
SURVEY

SHEET NO.	OF
3	28
TOTAL:	0
CAD FILE: 12911-MULTI-CIVL	
DRAWING FILE NO.	



LEGEND	
	PROPERTY LINE
	CENTERLINE
	LOT LINE
SAN	EXISTING SANITARY SEWER
WM	EXISTING WATER MAIN
STRM	EXISTING STORM SEWER
COM	EXISTING COMMUNICATION LINE
O/W	EXISTING OVERHEAD WIRE
X	EXISTING FENCE
	EXISTING CATCH BASIN
	EXISTING FIRE HYDRANT
W	EXISTING WATER METER
	EXISTING WATER VALVE
D	EXISTING STORMWATER MANHOLE
S	EXISTING SANITARY SEWER MANHOLE
	PROPOSED LIGHT POLE
	PROPOSED SWALE
	PROPOSED CONCRETE SIDEWALK
	PROPOSED DETECTABLE WARNING
	PROPOSED LANDSCAPING
	MILLING AND RESURFACING
	PROPOSED CONCRETE DRIVEWAY

NOTES:
1. THE INFORMATION SHOWN IS BASED ON CITY GIS INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL UTILITIES.
2. THROUGHOUT DURATION OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING AND PROTECTING ALL EXISTING STRUCTURES.

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PREPARED BY:
Kimley»Horn

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ENGINEER: CARLOS FLORIAN, P.E.
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DATE: 7/30/2025
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DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

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ENGINEERING & ARCHITECTURE
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REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

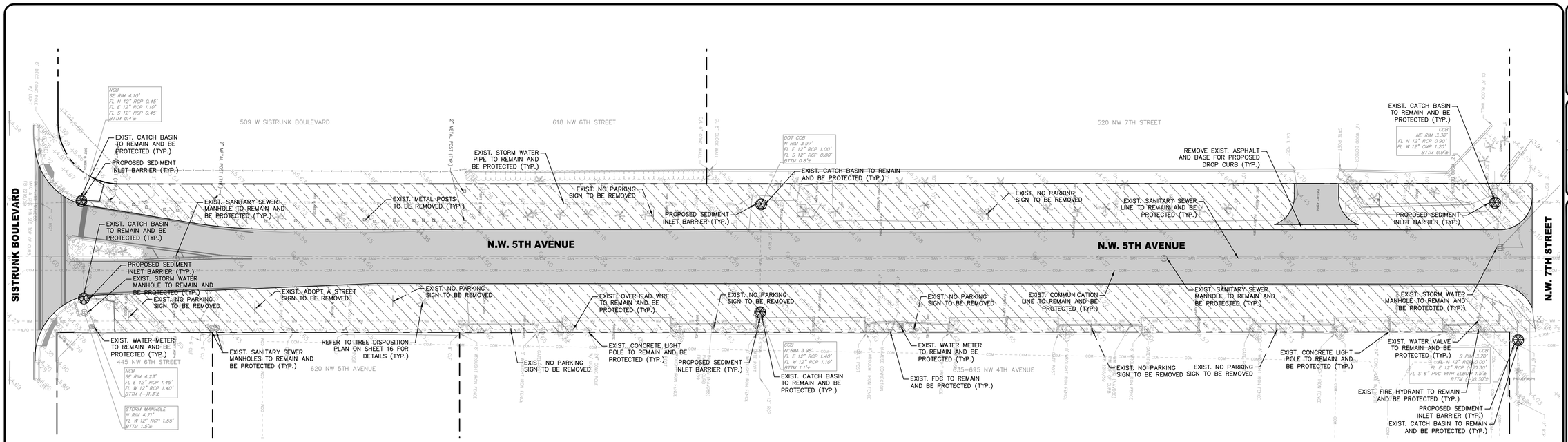
PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
SITE PLAN

SHEET NO. 4 OF 28

CAD FILE: 4 – SITE PLAN

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:3 SITE PLAN July 30, 2025 10:42:10am K:\Vtl_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\3 TYPICAL SECTIONS.dwg
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LEGEND	
	PROPERTY LINE
	LOT LINE
SAN	EXISTING SANITARY SEWER
WM	EXISTING WATER MAIN
STRM	EXISTING STORM SEWER
COMM	EXISTING COMMUNICATION LINE
O/H	EXISTING OVERHEAD WIRE
X	EXISTING FENCE
	EXISTING CATCH BASIN
	EXISTING FIRE HYDRANT
W	EXISTING WATER METER
	EXISTING WATER VALVE
	PROPOSED INLET SEDIMENT BARRIER
	MILLING AND RESURFACING
	LIMITS OF DEMOLITION

CONTRACTOR NOTES:

1. THE INTENT OF THE DEMOLITION PLAN IS TO DEPICT ALL EXISTING FEATURES THAT ENCUMBER THE PROPOSED CONSTRUCTION AREA AND ARE SCHEDULED FOR REMOVAL. SOME INCIDENTAL ITEMS MAY HAVE BEEN INADVERTENTLY OMITTED FROM THE PLAN. THE CONTRACTOR IS ENCOURAGED TO THOROUGHLY INSPECT THE SITE AS WELL AS REVIEW THE PLANS AND SPECIFICATIONS PRIOR TO SUBMITTING PRICING. CONTRACTOR WILL NOT RECEIVE ADDITIONAL COMPENSATION FOR INCIDENTAL ITEMS NOT SHOWN ON THIS DEMOLITION PLAN.
2. ALL EXIST. BUILDINGS, ASPHALT, LIMEROCK, CURBS, CONCRETE, SOD, LANDSCAPING, UTILITIES (INCLUDING, BUT NOT LIMITED TO, WATER, SANITARY SEWER, STORMWATER, FPL, IRRIGATION, ETC.,) SHALL BE DEMOLISHED/REMOVED WITHIN THE LIMITS OF DEMOLITION UNLESS OTHERWISE SPECIFIED.
3. REFER TO LANDSCAPE PLAN/TREE DISPOSITION PLAN FOR REMOVAL, RELOCATION, AND PROTECTION OF ALL TREES ASSOCIATED WITH THIS PROJECT.
4. BEFORE ANY TREE RELOCATIONS OR REMOVAL, A PRE-PLANNING MEETING WITH THE DEPARTMENT OF DESIGN, LANDSCAPE AND CONSTRUCTION MANAGEMENT IS REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING MEETING WITH CITY STAFF.
5. CONTRACTOR TO MAKE A CLEAN SAWCUT WITH EXISTING ASPHALT DRIVEWAYS/DRIVE AISLES. ANY DAMAGED ASPHALT AND CURBING SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. WHERE DETERIORATED ASPHALT AREA WITH LIMEROCK BASE EXPOSED, REMOVE CONTAMINATED LIMEROCK AND REPLACE WITH NEW COMPACTED LIMEROCK PRIOR TO ASPHALT OVERLAY.
7. CONTRACTOR TO COORDINATE WITH OWNERSHIP OF FP&L, AT&T AND COMCAST FOR REMOVAL AND RELOCATION OF ALL EXIST. UTILITIES POLES, LIGHT POLES, OVERHEARD WIRES, ETC.
8. ASPHALT ROADWAY MUST BE SAW CUT WHEN REMOVING CURB AND GUTTER.
9. THE INFORMATION SHOWN IS BASED ON CITY GIS INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL UTILITIES.
10. THROUGHOUT DURATION OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING AND PROTECTING ALL EXISTING STRUCTURES.

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ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
DEMOLITION AND EROSION CONTROL PLAN

SHEET NO. 5 OF 28

CAD FILE: 5 - DEMOLITION AND EROSION CONTROL PLAN
DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:4 DEMOLITION AND EROSION CONTROL July 30, 2025 10:42:33am K:\fll_civil\043_jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\4 DEMOLITION PLANS.dwg
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Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape improvements Layout:5 DEMOLITION AND EROSION CONTROL NOTES July 30, 2025 10:42:33am K:\fll_civil\043_jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plotsheets\4 DEMOLITION PLANS.dwg
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ESC001 - EROSION AND SEDIMENT CONTROL NOTES Saturday, July 08, 2017

EROSION AND SEDIMENT CONTROL:

1. CONTRACTOR TO EMPLOY BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION IN ORDER TO ENSURE POLLUTION PREVENTION. CONTRACTOR TO COMPLY WITH ALL LOCAL STATE AND OTHER GOVERNMENTAL ENVIRONMENTAL REGULATIONS THROUGHOUT CONSTRUCTION.
2. DURING CONSTRUCTION ALL CATCH BASIN INLETS SHALL BE PROTECTED TO PREVENT SEDIMENT AND DEBRIS FROM ENTERING THE CATCH BASIN.
3. SILT FENCES SHALL BE INSTALLED AS NECESSARY TO CONTROL OR PREVENT DISCHARGE OF SEDIMENT ONTO ADJACENT UNDISTURBED AREAS, OR OFF-SITE AREAS.
4. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED WITHIN A REASONABLE PERIOD OF TIME TO ASSURE MINIMUM EROSION OF SOILS.
5. NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
6. ALL EXPOSED AREAS SHALL BE SODDED AS SPECIFIED WITHIN 30 DAYS OF FINAL GRADING.
7. MAINTAIN EROSION CONTROL MEASURES AFTER EACH RAIN AND AT LEAST ONCE A WEEK.
8. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SOIL SEDIMENT FROM LEAVING THE SITE.
9. CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL ORDINANCES THAT APPLY.
10. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY CITY, COUNTY, AND STATE OF FLORIDA ON SITE INSPECTION, AT NO ADDITIONAL COST TO THE OWNER.
11. LAND DISTURBING ACTIVITIES SHALL NOT COMMENCE UNTIL APPROVAL TO DO SO HAS BEEN RECEIVED BY GOVERNING AUTHORITIES.
12. IF INSTALLATION OF STORM DRAINAGE SYSTEM SHOULD BE INTERRUPTED BY WEATHER OR NIGHTFALL, THE PIPE ENDS SHALL BE COVERED WITH FILTER FABRIC.
13. BURNING OF DEBRIS WILL NOT BE ALLOWED.
14. CONTRACTOR SHALL BE RESPONSIBLE TO TAKE WHATEVER MEANS NECESSARY TO ESTABLISH PERMANENT SOIL STABILIZATION.
15. CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (HAY BALES OR SILTATION CURTAIN) TO PREVENT SILTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS AND WATER WAYS. IN ADDITION CONTRACTOR SHALL PLACE STRAW, MULCH OR OTHER SUITABLE MATERIAL ON GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT SITE IF IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES IF EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF-SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC. THE CONTRACTOR IS TO REMOVE AND CLEAN SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR AUTHORITIES. EROSION CONTROL BARRIER SHALL BE ESTABLISHED AS THE FIRST ITEM OF WORK.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | EROSION AND SEDIMENT CONTROL NOTES SHEET 1 | DETAIL NO. ESC 001 | REVISED 2017/07/08

ESC001 - EROSION AND SEDIMENT CONTROL NOTES Saturday, July 08, 2017

16. THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STORMWATER PERMITTING PROGRAM APPLIES TO ALL CONSTRUCTION ACTIVITY THAT: 1) CONTRIBUTE STORMWATER DISCHARGES TO SURFACE WATER OF THE STATE OR INTO A MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4); 2) DISTURBS ONE OR MORE ACRES OF LAND; OR 3) LESS THAN ONE ACRE IS INCLUDED IF THE ACTIVITY IS PART OF A LARGER COMMON PLAN OF DEVELOPMENT THAT WILL MEET OR EXCEED THE ONCE ACRE THRESHOLD. DISTURB INCLUDES CLEARING, GRADING AND EXCAVATING.
17. FOR CONSTRUCTION ACTIVITY THAT IS SUBJECT TO THE NPDES FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STORMWATER PERMITTING PROGRAM, THE CONTRACTOR SHALL:
    - 17.1. OBTAIN A GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DOCUMENT 62-621.300(4)(A).
    - 17.2. COMPLY WITH ALL REQUIREMENTS OF THE GENERIC PERMIT.
    - 17.3. DEVELOP AND IMPLEMENT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
    - 17.4. COMPLETE A NOTICE OF INTENT (NOI) FLORIDA DEPARTMENT OF ENVIORNMENTAL PROTECTION FORM 62-621.300(4)(B) IN ITS ENTIRETY USING THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S WEBSITE.
18. SUBMIT COPIES OF THE SWPPP AND THE NOI TO THE ENGINEER AS INFORMATIONAL RECORDS. THESE SUBMITTALS WILL NOT BE REVIEWED BY THE ENGINEER.
19. CONTRACTOR TO CLEAN AND REPAIR ALL EXISTING STORMWATER INFRASTRUCTURE THAT IS IMPACTED BY CONSTRUCTION ACTIVITIES, BEFORE LEAVING THE JOBSITE.
20. CONTRACTOR TO REMOVE ALL FILTER FABRIC AND POLLUTION PREVENTION ITEMS BEFORE THE FINAL WALK-THROUGH.

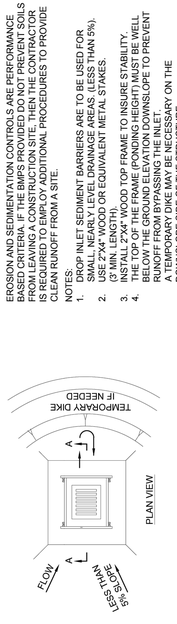
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | EROSION AND SEDIMENT CONTROL NOTES SHEET 2 | DETAIL NO. ESC 001 | REVISED 2017/07/08

ESC004 - DROP INLET PROTECTION - SEDIMENT BARRIER Tuesday, September 20, 2016

CONTRACTOR'S RESPONSIBILITY

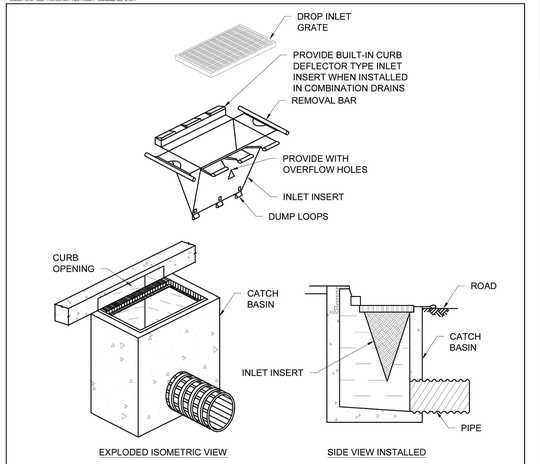
EROSION AND SEDIMENTATION CONTROLS ARE PERFORMANCE BASED CRITERIA. IF THE BMPS PROVIDED DO NOT PREVENT SOILS FROM LEAVING A CONSTRUCTION SITE, THEN THE CONTRACTOR IS REQUIRED TO EMPLOY ADDITIONAL PROCEDURES TO PROVIDE CONTROL FOR RUNOFF FROM A SITE.

NOTES:
1. DROP INLET SEDIMENT BARRIERS ARE TO BE USED FOR SMALL, NEARLY LEVEL DRAINAGE AREAS, (LESS THAN 5%).
2. USE 2"X4" WOOD OR EQUIVALENT METAL STAKES.
3. (3' MIN. LENGTH).
4. INSTALL 2"X4" WOOD TOP FRAME TO INSURE STABILITY. THE TOP OF THE FRAME (PONDING HEIGHT) MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE TO PREVENT RUNOFF FROM BYPASSING THE INLET.
5. A TEMPORARY DIKE MAY BE NECESSARY ON THE DOWNSLOPE SIDE OF THE STRUCTURE. FABRIC SHALL BE MIRAFI OR APPROVED EROSION CONTROL FABRIC SHALL BE WRAPPED AROUND GRATE.
6. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.



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ESC005 - DROP INLET PROTECTION - INLET INSERT Wednesday, July 12, 2017



NOTES:
1. THE INLET INSERT SHALL BE A SEDIMENT CONTROL DEVICE DESIGNED FOR DROP INLETS OR COMBINATION DRAINS WHERE A DROP INLET IS COUPLED WITH A CURB INLET.
2. THE INLET INSERT SHALL BE MADE OF A PERMEABLE GEOTEXTILE THAT ALLOWS WATER TO PASS BUT PREVENTS SILT AND SEDIMENT FROM CLOGGING THE DRAIN SYSTEM.
3. THE CONTRACTOR SHALL CLEAN AND INSPECT REGULARLY AND AFTER EVERY MAJOR RAIN EVENT.
4. INLET INSERTS SHALL BE "SILTSACK" BY ACF ENVIRONMENTAL, OR EQUAL. SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE SPECIFICATIONS.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | DROP INLET PROTECTION - INLET INSERT | DETAIL NO. ESC 005 | REVISED 2017/07/12

GNRL009 - DEMOLITION NOTES Monday, July 17, 2017

DEMOLITION NOTES:

GENERAL DEMOLITION SPECIFICATIONS :

1. THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY.
2. PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES AND OTHER FEATURES AFFECTING THE WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES THAT MIGHT IMPACT THE WORK.
3. CHAPTER 553.851 OF THE FLORIDA STATUTES REQUIRES THAT AN EXCAVATOR NOTIFY ALL UTILITIES A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO EXCAVATING.
4. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BEFORE EXCAVATION.
5. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, SUPERVISION, AND EQUIPMENT REQUIRED FOR THE ORDERLY DEMOLITION AND REMOVAL OF EXISTING STRUCTURES, PAVEMENT AND UTILITIES AS SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN.
6. THE CONTRACTOR IS REQUIRED TO FAMILIARIZE HIMSELF WITH THE STRUCTURES TO BE DEMOLISHED.
7. THE FOLLOWING LIST OF STRUCTURES REQUIRING DEMOLITION IS INCLUDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. THE DRAWINGS INDICATE THE SCOPE OF DEMOLITION WHERE DEMOLITION IS REQUIRED.
    - 7.1. DEMOLITION AND REMOVAL OF A 5' MIN.± STRIP OF EXISTING ON-SITE ASPHALT, CONCRETE AND CURBING AROUND THE PERIMETER OF THE EXISTING STRUCTURES AND UTILITIES BEING DEMOLISHED.
    - 7.2. REMOVAL OF EXISTING ON-SITE ABOVEGROUND AND UNDERGROUND UTILITIES, INCLUDING REMOVAL OR PLUGGING OF EXISTING UTILITIES AS SHOWN ON PLANS.
8. PRIOR TO REMOVAL OF ANY UNDERGROUND TANK AND OTHER COMPONENT, CONTRACTOR MUST COMPLETELY DRAIN THE SYSTEMS TO AN APPROVED SANITATION TANK FOR DISPOSAL TO AN APPROVED LOCATION, AS REQUIRED BY DISPOSAL PERMIT.
9. PROTECT ALL UTILITIES, UNLESS OTHERWISE NOTED.
10. ALL THE CONCRETE AND PAVEMENT TO BE REMOVED MUST BE SAW CUT CLEAN PRIOR TO REMOVAL.
11. WET DOWN MASONRY WALLS AND DEBRIS DURING DEMOLITION AND LOADING OPERATIONS TO PREVENT THE SPREAD OF DUST (AS APPLICABLE TO PROJECT).
12. ALL EXISTING STRUCTURES, PAVEMENTS, SLABS, FOUNDATIONS, STEPS AND OTHER ON-SITE EXISTING FEATURES INDICATED ON THE DRAWINGS TO BE REMOVED SHALL BE DEMOLISHED AND REMOVED BY THE CONTRACTOR (AS APPLICABLE TO PROJECT).

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | DEMOLITION NOTES SHEET 1 | DETAIL NO. GNRL 009 | REVISED 2017/07/13

GNRL009 - DEMOLITION NOTES Monday, July 17, 2017

13. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ON THE DRAWINGS ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.
14. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION OF ANY ELECTRICAL, TELEPHONE, CABLE AND/OR GAS LINES. SUFFICIENT TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE.
15. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER/ENGINEER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINANT IS ENCOUNTERED DURING THE DEMOLITION/EXCAVATION PROCESS.
16. FILL FOR LOWER LEVELS OF DEMOLISHED STRUCTURES MAY INCLUDE CONCRETE OR MASONRY RUBBLE RESULTING FROM DEMOLITION, SUBJECT TO THE ENGINEER'S/ARCHITECT'S APPROVAL. RUBBLE SHALL PASS THROUGH A THREE-INCH RING.
17. REMOVE AND LEGALLY DISPOSE OF ALL OTHER RUBBISH, RUBBLE, AND DEBRIS. COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS GOVERNING DISPOSAL OF WASTES AND DEBRIS.
18. MAINTAIN ACCESS TO SURROUNDING PROPERTIES AND BUILDINGS.
19. PRIOR TO DEMOLITION OCCURRING ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.
20. ALL TRAFFIC SIGNS OUTSIDE THE DEMOLITION AREA ARE TO REMAIN UNLESS OTHERWISE SPECIFIED.
21. ANY MUCK ENCOUNTERED UNDER PROPOSED STRUCTURES SHALL BE REMOVED TO FIVE-FEET BEYOND THE FOOTPRINT OF THAT STRUCTURE. BACKFILL WITH APPROVED FILL MATERIAL SATISFYING ALL COMPACTION REQUIREMENTS.
22. ALL EXISTING UTILITIES WITHIN THE DEMOLITION SITE AREA SHALL BE ADJUSTED, REMOVED OR RELOCATED AT THE CONTRACTOR'S EXPENSE. WORK SHALL BE COORDINATED BY THE CONTRACTOR DIRECTLY WITH THE APPROPRIATE UTILITY COMPANY. ALL EXPENSES SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
23. ALL TRASH, DEBRIS AND OTHER MATERIAL REMOVED FROM THE SITE SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

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PRE-DEMOLITION RESPONSIBILITIES :

1. UPON RECEIPT OF NOTICE OF AWARD, THE CONTRACTOR SHALL ARRANGE A PRE-DEMOLITION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, ALL AFFECTED UTILITY OWNERS, THE OWNER, THE ENGINEER AND THE CONTRACTOR.
2. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A DEMOLITION SCHEDULE DEPICTING EACH PHASE OF THE WORK.
3. PRIOR TO DEMOLITION, CONTRACTOR TO PROVIDE FOR THE OWNER A LISTING OF THE FACILITIES THE CONTRACTOR SHALL UTILIZE FOR RECYCLING AND DISPOSAL OF SPECIFIC MATERIALS. CONTRACTOR TO INDICATE THE MATERIALS INTENDED FOR RECYCLING AND THE MATERIALS INTENDED FOR DISPOSAL FOR OWNER'S APPROVAL.
4. PRIOR TO DEMOLITION, CONTRACTOR TO PROVIDE THE OWNER SKETCHES SHOWING PROPOSED HAULING ROUTES TO RECYCLING AND DISPOSAL FACILITIES FOR APPROVAL.
5. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL VERIFY THE SIZE, LOCATION, ELEVATION, AND MATERIAL OF ALL EXISTING UTILITIES WITHIN THE AREA OF DEMOLITION.
6. EXISTING UTILITY LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. THE CITY AND THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING UTILITIES SHOWN OR FOR ANY EXISTING UTILITIES NOT SHOWN.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING UTILITIES FOR WHICH IT FAILS TO REQUEST LOCATIONS FROM THE UTILITY OWNER. THE CONTRACTOR IS RESPONSIBLE AS WELL FOR DAMAGE TO ANY EXISTING UTILITIES WHICH ARE PROPERLY LOCATED.
8. THE LOCATIONS OF EXISTING UTILITIES AND STORM DRAINAGE SHOWN ON THE PLANS HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. ENGINEER ASSUMES NO RESPONSIBILITY FOR INACCURACY.
9. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL FIELD LOCATE EXISTING UNDERGROUND UTILITIES WITH THE UTILITY OWNERS.
10. THE CONTRACTOR IS RESPONSIBLE FOR RELOCATION'S OF THE VARIOUS EXISTING UTILITIES WITH THE UTILITY OWNERS, WHICH SHALL BE DONE IN A TIMELY MANNER TO MINIMIZE IMPACT ON DEMOLITION SCHEDULE. ANY DELAY CAUSED BY THE CONTRACTOR BY THE RELOCATION OF UTILITIES SHALL BE INCIDENTAL TO THE CONTRACT AND NO EXTRA COMPENSATION WILL BE ALLOWED.
11. SUNSHINE STATE ONE CALL OF FLORIDA, INC. REQUIRES THE CONTRACTOR TO CALL TWO (2) FULL BUSINESS DAYS (BUT NOT MORE THAN FIVE) PRIOR TO BREAKING GROUND TO FIND OUT WHERE BURIED FACILITIES (ELECTRICAL, GAS, TELEPHONE, CABLE, WATER) ARE LOCATED.

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DEMOLITION SAFETY :

1. ALL DEMOLITION SHALL BE DONE IN A SAFE MANNER, SPECIFICALLY, THE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), THE FLORIDA DEPARTMENT OF TRANSPORTATION (FDOT) AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) SHALL BE STRICTLY OBSERVED.
2. PROVIDE ADEQUATE PROTECTION FOR PERSONS AND PROPERTY AT ALL TIMES. EXECUTE THE WORK IN A MANNER TO AVOID HAZARDS TO PERSONS AND PROPERTY AND PREVENT INTERFERENCE WITH THE USE OF AND ACCESS TO ADJACENT BUILDINGS. STREETS AND SIDEWALKS SHALL NOT BE UNNECESSARILY BLOCKED BY DEBRIS AND EQUIPMENT.
3. BUILDING MATERIALS TO BE REMOVED SHALL BE TESTED FOR ASBESTOS AND LEAD PAINT.
4. IF PETROLEUM PRODUCTS ARE FOUND WHILE DEMOLISHING, DISPOSE OF PETROLEUM WASTE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

PAVEMENT DEMOLITION:

1. WHERE EXISTING PAVEMENT IS TO BE REMOVED, SAW-CUT THE SURFACING LEAVING A UNIFORM AND STRAIGHT EDGE WITH MINIMUM DISTURBANCE TO THE REMAINING ADJACENT SURFACING. IF DEMOLITION RESULTS IN RAVELING OF SAW CUT SURFACE, RECUT BACK FROM THE RAVELED EDGE PRIOR TO RESTORATION.
2. WHERE EXISTING PAVEMENT, CURB, CURB AND GUTTER, SIDEWALK, DRIVEWAY, OR VALLEY GUTTER IS REMOVED FOR INLETS, MANHOLES, APPURTENANCES, FACILITIES OR STRUCTURES, SAID PAVEMENT, ETC., SHALL BE REPLACED WITH NEW PAVEMENT, ETC. CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, MATERIALS, EQUIPMENT, TOOLS, SUPPLIES, AND OTHER EQUIPMENT AS REQUIRED.
3. CONTRACTOR MAY LIMIT SAW-CUT AND PAVEMENT REMOVAL TO ONLY THOSE AREAS WHERE IT IS REQUIRED AS SHOWN ON THE DRAWINGS. HOWEVER, IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, SIDEWALK, BUILDINGS, UTILITIES, ETC., THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR IT'S REMOVAL AND REPLACEMENT. REPLACEMENT PAVEMENT, SIDEWALK, ETC., SHALL BE NEW.

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811 Know what's below. Call before you dig. 811 or 1-800-432-4770 or visit www.callsunshine.com

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

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DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

REVISIONS

NO.	DESCRIPTION	DATE	BY	CHK'D

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
DEMOLITION AND EROSION CONTROL NOTES

SHEET NO. 6 OF 28

CAD FILE: 6 - DEMOLITION AND EROSION CONTROL NOTES
DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape improvements Layout:6 DEMOLITION AND EROSION CONTROL NOTES July 30, 2025 10:42:40am K:\fll_civil\043_jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plotsheets\4 DEMOLITION PLANS.dwg
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DEMOLITION PERMITTING:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY REQUIRED PERMITS FOR DEMOLITION FROM RESPONSIBLE REGULATORY AGENCIES WHILE FULLY ACKNOWLEDGING AND COMPLYING WITH ALL REQUIREMENTS PRIOR TO COMMENCING DEMOLITION WORK.

2. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE EXTENT OF DEMOLITION, RECYCLING OR REUSE REQUIRED TO PERFORM THE CONTRACT WORK FOR THIS PROJECT. THE CONTRACTOR SHALL CONDUCT SITE VISITS AND SHALL EXAMINE ALL THE INFORMATION WITHIN THESE DOCUMENTS. ALL DISCREPANCIES AND/OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID SUBMITTAL.

3. THE CONTRACTOR SHALL COORDINATE WITH OWNER PRIOR TO COMMENCEMENT OF ANY WORK. ACTUAL REMOVAL AND/OR RELOCATION OF ALL EXISTING LANDSCAPING WITHIN DEMOLITION AREAS TO BE CONDUCTED BY A LANDSCAPE CONTRACTOR. IT IS THE RESPONSIBILITY OF THE SITEWORK DEMOLITION CONTRACTOR TO COORDINATE DEMOLITION ACTIVITIES WITH THE LANDSCAPE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND PRESERVING TREES AS INDICATED ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TREE REMOVAL PERMIT OR ANY OTHER APPLICABLE PERMIT TO REMOVE, RELOCATE, OR PRESERVE EXISTING LANDSCAPE AND TREES.

4. ANY TREES FOR REMOVAL FOUND TO BE GREATER THAN OR EQUAL TO THREE (3) INCHES IN DIAMETER AT BREAST HEIGHT (DBH) SHALL REQUIRE A PERMIT WITH THE BROWARD COUNTY ENVIRONMENTAL PROTECTION AND GROWTH MANAGEMENT DEPARTMENT (BCEPGMD).

5. SHOULD REMOVAL AND/OR RELOCATION ACTIVITIES DAMAGE THE LIGHTING, STORM INLET STRUCTURES, OR OTHER STRUCTURES DESIGNATED TO BE SAVED, THEN THE CONTRACTOR SHALL PROVIDE NEW MATERIALS/STRUCTURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

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DEMOLITION EROSION AND SEDIMENT CONTROL NOTES :

1. THE SCHEDULING, SEQUENCING AND CONTROL MEASURES, WHICH ARE OUTLINED HEREIN, ARE SUBJECT TO THE FINAL DEFINITION BY THE CONTRACTOR WHO SHALL BE SELECTED TO PERFORM THE WORK AND SHALL BE RESPONSIBLE FOR IMPLEMENTATION AND COMPLIANCE.

2. PRIOR TO DEMOLITION, THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A DEMOLITION SCHEDULE DEPICTING EACH PHASE OF THE WORK. THE CONTRACTOR SHALL ALSO BE REQUIRED TO SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN ENCOMPASSING THE PRINCIPALS AND THE REQUIREMENTS DESCRIBED HEREIN AND A SCHEDULE FOR THEIR IMPLEMENTATION AND MAINTENANCE FOR THE PROJECT DURATION.

3. DURING DEMOLITION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO ENSURE AGAINST POLLUTING, SILTATION OR DISTURBANCE TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY TO THE EXISTING DRAINAGE SYSTEMS AND ADJACENT WATER BODIES AND WETLANDS, IN COMPLIANCE WITH ALL PERMIT REQUIREMENTS RELATED TO SUCH MEASURES.

4. METHODS MAY INCLUDE TEMPORARY EROSION AND SEDIMENT CONTROLS SUCH AS SEDIMENT BASINS, SEDIMENT CHECKS, SILT BARRIERS, SILT SCREENS, TURBIDITY BARRIERS OR THE BEST MANAGEMENT PRACTICES AVAILABLE TO THE INDUSTRY.

5. EROSION AND SEDIMENT CONTROL INSTALLATIONS SHALL BE MAINTAINED THROUGHOUT THE DEMOLITION PERIOD AND UNTIL NEW VEGETATIVE GROWTH HAS BEEN ESTABLISHED.

6. THROUGHOUT THE DEMOLITION PERIOD, THE CONTRACTOR SHALL INSPECT DAILY THE EROSION AND SEDIMENT CONTROL INSTALLATIONS FOR FAILURE OR SIGNS OF FAILURE OR MALFUNCTION. REPAIR OR REPLACE THE EROSION AND SEDIMENT CONTROL INSTALLATIONS IMMEDIATELY UPON DISCOVERY OF FAILURE OR MALFUNCTION.

7. INLETS AND CATCH BASINS, EXISTING ON-SITE AND OFF-SITE, SHALL BE PROTECTED FROM SEDIMENT STORM RUNOFF.

8. THE CONTRACTOR SHALL PROMPTLY REMOVE ALL MUD, DIRT OR OTHER MATERIALS TRACKED OR SPILLED ONTO EXISTING PUBLIC ROADS AND FACILITIES DUE TO DEMOLITION.

9. DEWATERING ACTIVITIES SHALL NOT RESULT IN ANY DISCHARGE OF TURBID WATER FROM THE PROJECT SITE WITHOUT PROPER EROSION AND SEDIMENT CONTROL AND APPROVAL FROM ENGINEER.

10. PHASING OF EROSION CONTROL DEMOLITION SHALL BE RECOMMENDED AS FOLLOWS:

10.1. PLACEMENT OF PERIMETER PROTECTIVE MEASURES (SILT FENCE, HAY BALES, TURBIDITY BARRIERS, ETC.) AROUND ON-SITE FEATURES TO BE RETAINED, AT POINTS OF OFF-SITE DISCHARGE AND AROUND WORK AREAS TO BE EXCAVATED OR FILLED.

10.2. REROUTE RUNOFF FROM AREAS OUTSIDE OF THE DEMOLITION AREA TO MINIMIZE FLOW THROUGH AREAS TO BE DISTURBED BY DEMOLITION. BERMS, SWALES AND OTHER MEANS USED FOR SUCH CONVEYANCE SHALL BE VEGETATED AND MEASURES TAKEN TO PROVIDE PROTECTION UNTIL STABILIZATION OCCURS (AS APPLICABLE TO THE PROJECT).

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10.3. SELECT LOCATIONS FOR PLACEMENT OF EXCAVATED MATERIAL, WHERE SUITABLE FOR FILL OR UNSUITABLE MATERIAL, AND CONSTRUCT CONTAINMENT BERMS AROUND THE AREA. THE USE OF STRIPING FOR THIS PURPOSE MAY ACCELERATE BERM REVEGETATION. CONSTRUCT TEMPORARY OUTLETS FOR CONTAINMENT AREAS WITH SCREENS, HAY BALES, SETTLING BASINS OR OTHER MEASURES TO PREVENT SILT TRANSPORT.

10.4. SELECT / DESIGNATE ACCESS ROUTING FOR DEMOLITION EQUIPMENT AND VEHICLES AND PROVIDE PERIMETER PROTECTIVE MEASURES WHERE EXISTING TERRAIN SHALL BE SUBJECT TO DISRUPTION BY SUCH TRAFFIC.

10.5. CONSTRUCT ABOVE GROUND OR OTHER CONTAINMENT AREAS FOR DEMOLITION AREA RUNOFF. PROVIDE SCREENS, HAY BALES, ETC. TO FILTER DISCHARGE FROM THOSE AREAS.

10.6. SPOIL MOUNDS SHALL NOT BE LEFT FOR MORE THAN ONE WEEK PRIOR TO REPLACEMENT UNLESS PROTECTIVE CONTAINMENT MEASURES IN THE WORK AREA ARE APPLIED.

10.7. GRASSING, SODDING, ETC. SHALL BE IN PLACE IMMEDIATELY UPON COMPLETION OF REGRADING, SWALE SLOPES AND THE CONSTRUCTED OR DISTURBED AREAS.

11. THE CONTRACTOR IS REQUIRED TO ADHERE TO THE REQUIREMENT OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES). THE CONTRACTOR SHALL INSTITUTE BEST MANAGEMENT PRACTICES (BMPS) TO ENSURE COMPLIANCE WITH THE NPDES PROGRAM AND TO MINIMIZE THE IMPACT TO PUBLIC STORMWATER FACILITIES. A NOTICE OF INTENT (NOI) SHALL BE FILED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.

12. THE CONTRACTOR SHALL PREPARE A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND MAINTAIN ALL RECORDS REQUIRED BY ITS NPDES STORMWATER PERMIT FOR ITS CONSTRUCTION ACTIVITIES.

13. PRIOR TO CONSTRUCTION, A SILT FENCE IN ACCORDANCE WITH CITY'S DETAIL SHALL BE ERECTED AS NOTED ON PLANS. ALL PROPOSED CATCH BASINS SHALL HAVE THEIR INLETS PROTECTED BY THE INSTALLATION OF FILTER INLET INSERTS INTO THE FRAME AND GRATE. SILT FENCES AND FILTER INLET INSERTS SHALL REMAIN IN PLACE DURING THE ENTIRE DURATION OF CONSTRUCTION.

14. CONTRACTOR SHALL BRACE ALL EXISTING LANDSCAPING TO REMAIN PRIOR TO BEGINNING ANY WORK AND SHALL ENSURE ITS STABILIZATION THROUGHOUT THE ENTIRE CONSTRUCTION PROCESS. EXISTING SOD DISTURBED BY CONSTRUCTION THAT IS NOT AFFECTED BY PROPOSED GRADING SHALL BE RESTORED TO NEW CONDITION UPON COMPLETION OF CONSTRUCTION. SODDED SLOPES STEEPER THAN FOUR HORIZONTAL TO ONE VERTICAL SHALL BE PEGGED.

15. ALL WASTE GENERATED FROM THE CONSTRUCTION SHALL BE DISCARDED IN ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL AND FEDERAL REGULATIONS. CONTRACTOR SHALL OBTAIN ALL APPLICABLE CODES AND BECOME FAMILIAR WITH STATE, LOCAL AND FEDERAL REGULATIONS PRIOR TO BEGINNING CONSTRUCTION.

16. TO ENSURE THAT OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST IS MINIMIZED, CONTRACTOR SHALL PUT INTO PRACTICE THE METHODS DETAILED IN FLORIDA DEPARTMENT OF TRANSPORTATION INDEX 106 (2010 DESIGN STANDARDS) AND BMPS.

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17. DUST GENERATED FROM CONSTRUCTION SHALL BE MINIMIZED BY DAILY WATERING OF THE SITE.

18. AT ANY TIME DURING CONSTRUCTION THAT THE SILT FENCING IS DISTURBED, THE SILT FENCING SHALL BE RESTORED TO ITS ORIGINAL STATE WITHIN 24 HOURS. AT NO TIME DURING CONSTRUCTION SHALL WORK BE PERFORMED WITHOUT THE INTEGRITY OF THE SILT FENCING SECURED.

19. A QUALIFIED INSPECTOR, PROVIDED BY THE CONTRACTOR, SHALL INSPECT ALL POINTS OF DISCHARGE INTO NEARBY SURFACE WATER. THE INSPECTION SHALL OCCUR AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER. INSPECTION INCLUDES THE WRITTEN RECORDING OF THE CONDITION OF ALL DISCHARGE POINTS, INTEGRITY OF SILT FENCING, DAILY DUST CONTROL MEASURES, VEHICULAR TRAFFIC AND CONSTRUCTION MATERIAL STORAGE AND DISPOSAL. WRITTEN RECORD OF ALL INSPECTIONS SHALL BE STORED BY THE CONTRACTOR.

20. THE INSPECTION REPORT SHALL INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING INFORMATION: NAME AND QUALIFICATION OF PERSONNEL MAKING THE INSPECTION, DATE OF INSPECTION, RAINFALL DATE, MAJOR OBSERVATIONS RELATING TO THE SWPPP, ACTIONS TAKEN BY CONTRACTOR AND ANY INCIDENT OF NONCOMPLIANCE WITH PERMIT. WHERE AN INSPECTION DOES NOT IDENTIFY ANY INCIDENT OF NONCOMPLIANCE, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE SWPPP AND THE PERMIT.

21. THE CONTRACTOR SHALL RETAIN A COPY OF THE SWPPP AND ALL REPORTS, RECORDS AND DOCUMENTATION REQUIRED BY THE PERMIT AT THE CONSTRUCTION SITE, OR AN APPROPRIATE ALTERNATIVE LOCATION AS SPECIFIED IN THE NOTICE OF INTENT, FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.

22. THE CONTRACTOR SHALL RETAIN THE SWPPP, NOI AND ALL RECORDS ASSOCIATED THEREWITH FOR A PERIOD OF AT LEAST THREE (3) YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED.

23. SEE LANDSCAPE PLANS FOR TREE REMOVAL AND LANDSCAPE DEMOLITION.

24. CONTRACTOR SHALL COORDINATE THROUGH CITY'S CONSTRUCTION DIVISION AND CITY'S PARKS DEPARTMENT ON HOW TO STOCK AND RE-USE EXCAVATED SOIL FROM SITE (AS APPLICABLE TO THE PROJECT).

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INTERRUPTION OF EXISTING UTILITIES:

1. ANY DEMOLITION WORK THAT REQUIRES INTERRUPTION OF SERVICE TO ANY CUSTOMER SHALL BE DONE SO WITH A MINIMUM OF SEVENTY-TWO (72) HOUR WRITTEN NOTICE TO, AND WRITTEN APPROVAL BY, THE APPROPRIATE UTILITY COMPANY.

2. THE CONTRACTOR SHALL ARRANGE A MEETING WITH THE LOCAL JURISDICTIONAL AGENCIES AND OTHER GOVERNING AGENCIES, AND OTHER AFFECTED UTILITIES PRIOR TO SCHEDULING THE SHUT DOWN TO ASSESS THE SCOPE OF WORK.

3. ALL SYSTEM SHUT DOWNS SHALL BE SCHEDULED BY THE CONTRACTOR AT SUCH TIME THAT SYSTEM DEMAND IS LOW. THIS GENERALLY REQUIRES NIGHT TIME WORK BY THE CONTRACTOR AND REQUIRES FULL-TIME INSPECTION BY A REPRESENTATIVE OF THE UTILITY. ALL COST FOR OVERTIME WORK BY THE REPRESENTATIVE OF THE UTILITY SHALL BE BORNE BY THE CONTRACTOR.

4. EACH CUSTOMER AFFECTED BY THE SHUT-DOWN SHALL BE PROVIDED, MINIMUM, FORTY-EIGHT (48) HOURS WRITTEN NOTIFICATION BY THE CONTRACTOR.

TEMPORARY DEMOLITION FACILITIES:

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO ITS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING DEMOLITION.

2. MAINTENANCE OF TRAFFIC (MOT) IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.

3. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.

4. NO TRENCHES OR HOLES NEAR WALKWAYS OR IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS WRITTEN PERMISSION OF THE CITY OR RESPECTIVE GOVERNING AGENCY.

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WASTE MANAGEMENT PLAN:

1. IMPLEMENT A WASTE MANAGEMENT PLAN FOR APPROVAL BY THE OWNER. PROVIDE HANDLING, CONTAINERS, STORAGE, SIGNAGE, TRANSPORTATION AND OTHER ITEMS AS NEEDED TO IMPLEMENT THE WASTE MANAGEMENT PLAN DURING THE ENTIRE DURATION OF THE CONTRACT.

2. DESIGNATE A WASTE MANAGEMENT COORDINATOR TO BE RESPONSIBLE FOR IMPLEMENTING, MONITORING AND REPORTING STATUS OF WASTE MANAGEMENT WORK PLAN. COORDINATOR SHALL BE PRESENT AT PROJECT SITE FULL-TIME FOR DURATION OF PROJECT.

3. TRAIN WORKERS, SUBCONTRACTORS AND SUPPLIERS ON PROPER WASTE MANAGEMENT PROCEDURES, AS APPROPRIATE FOR THE WORK AT THE PROJECT SITE.

4. DISTRIBUTE A WASTE MANAGEMENT PLAN BEFORE WORK BEGINS. REVIEW PLAN PROCEDURES AND LOCATION ESTABLISHED FOR SALVAGE, RECYCLING AND DISPOSAL.

RECYCLING DEMOLITION WASTE:

1. SEPARATE RECYCLABLE WASTE FROM OTHER WASTE MATERIALS, TRASH AND DEBRIS. SEPARATE RECYCLABLE WASTE BY TYPE AT THE PROJECT SITE TO THE MAXIMUM EXTENT PRACTICAL.

2. PROVIDE APPROPRIATELY MARKED CONTAINERS OR BINS FOR CONTROLLING RECYCLABLE WASTE UNTIL THEY ARE REMOVED FROM THE PROJECT SITE. INCLUDE A LIST OF ACCEPTABLE AND UNACCEPTABLE MATERIALS AT EACH CONTAINER AND BIN.

3. INSPECT CONTAINERS AND BINS FOR CONTAMINATION AND REMOVE CONTAMINATED MATERIALS IF FOUND.

4. STOCKPILE PROCESSED MATERIALS ON-SITE WITHOUT INTERMIXING WITH OTHER MATERIALS. PLACE, GRADE AND SHAPE STOCKPILES TO DRAIN SURFACE WATER. COVER TO PREVENT WINDBLOWN DUST.

5. STOCKPILE MATERIALS AWAY FROM DEMOLITION AREA. DO NOT STORE WITHIN DRIP LINE OF REMAINING TREES.

6. STORE COMPONENTS OFF THE GROUND AND PROTECT FROM THE WEATHER.

7. REMOVE RECYCLABLE WASTE OFF THE OWNER'S PROPERTY AND TRANSPORT TO RECYCLING RECEIVER OR PROCESSOR.

8. ASPHALTIC CONCRETE PAVING: BREAK UP AND TRANSPORT PAVING TO ASPHALT RECYCLING FACILITY.

9. CONCRETE: REMOVE REINFORCEMENT AND OTHER METALS FROM CONCRETE AND SORT WITH OTHER METALS.

10. MASONRY: MASONRY WASTE SHALL INCLUDE WHOLE OR BROKEN BRICK AND CONCRETE MASONRY UNITS. WHOLE MASONRY UNITS SHALL BE CLEANED AND REUSED OR DONATED. BROKEN MASONRY SHALL BE CRUSHED AND USED AS FILL FOR OFFSITE AREAS. REMOVE METAL REINFORCEMENT, ANCHORS AND TIES FROM MASONRY AND SORT WITH OTHER METALS.

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11. METALS: METALS FROM REINFORCED CONCRETE, REINFORCED MASONRY, STRUCTURAL STEEL MEMBERS, FLASHING AND SHEET METAL, CONDUIT PIPE, SIDING, PIPING AND WIRING SHALL BE SEPARATED BY TYPE.

12. STRUCTURAL STEEL: STACK MEMBERS ACCORDING TO THEIR SIZE, TYPE AND LENGTH.

13. NUTS AND BOLTS: REMOVE BOLTS, NUTS, WASHERS AND OTHER ROUGH HARDWARE.

14. SITE-CLEARING WASTE SHALL BE RECYCLED BY CHIPPING BRUSH, BRANCHES AND TREES, THEN HAUL TO WOOD RECYCLING CENTER.

DISPOSAL OF WASTE:

1. GENERAL: EXCEPT FOR ITEMS OR MATERIALS TO BE SALVAGED, RECYCLED OR OTHERWISE REUSED, REMOVE WASTE MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN A LANDFILL OR OTHER PERMITTED DISPOSAL FACILITY.

2. EXCEPT AS OTHERWISE SPECIFIED, DO NOT ALLOW WASTE MATERIALS THAT ARE TO BE DISPOSED OF TO ACCUMULATE ON-SITE.

3. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT SHALL PREVENT SPILLAGE ON ADJACENT SURFACES AND AREAS.

4. BURNING: DO NOT BURN WASTE MATERIALS.

5. DISPOSAL: TRANSPORT WASTE MATERIALS OFF THE OWNER'S PROPERTY AND LEGALLY DISPOSE OF THEM.

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DWG:GNG - DENSITY TESTING NOTES Thursday, July 13, 2017

MINIMUM DENSITY REQUIREMENTS

LOCATION	MATERIAL	MINIMUM DENSITY (% OF MAX)	TESTING FREQUENCY
ROADS (INCLUDES SIDEWALKS, ASPHALT PATHS)	BACKFILL	98%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT TOP OF FIRST LIFT AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: TESTS SHALL BE PERFORMED AT RANDOMLY SELECTED LOCATIONS WITHIN EACH 300 FOOT INTERVAL (MAXIMUM) ALONG THE LENGTH OF ROADWAY, SIDEWALK OR PATHWAY.
	SUBGRADE	98%	
	BASE	98%	
MANHOLES AND VAULTS (IN ROADS AND PARKING AREAS)	IN-PLACE SUBGRADE BENEATH STRUCTURES	95%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT THE BOTTOM OF THE STRUCTURE AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: PERFORM TESTING AT EACH STRUCTURE.
	BACKFILL BENEATH STRUCTURES	98%	
	BACKFILL AROUND STRUCTURES	98%	
	CRUSHED STONE BENEATH STRUCTURES	NOTE 6	
PARKING AREAS	BACKFILL	98%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT TOP OF FIRST LIFT AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: TESTS SHALL BE PERFORMED EVERY 6,000 SQUARE FEET OF PARKING AREA.
	SUBGRADE	98%	
	BASE	98%	
UTILITY TRENCH BACKFILL	BEDDING AND BACKFILL	98%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT THE SPRING LINE AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: TESTS SHALL BE PERFORMED AT RANDOMLY SELECTED LOCATIONS WITHIN EACH 300 FOOT INTERVAL (MAXIMUM) ALONG THE LENGTH OF A PIPE INSTALLATION, AND BETWEEN EACH SET OF STRUCTURES SEPARATED BY LESS THAN 300 FEET.
ROADS AND PARKING	ASPHALT	94%	ASPHALT TESTING MAY BE DONE BY CORE SAMPLING OR NUCLEAR GAUGE DENSITY TESTING. ASPHALT TESTING SHALL BE AT MAXIMUM 300 LINEAR FOOT ALONG ROADWAYS AND 6,000 SQUARE FOOT INTERVALS FOR PARKING AREAS.

NOTES:

1. THE DENSITY REQUIREMENTS PRESENTED ASSUME DRY TRENCH CONDITIONS.
2. UNLESS INDICATED OTHERWISE IN THE SPECIFICATIONS, TESTING SHALL COMPLY WITH THE REQUIREMENTS PRESENTED IN THIS TABLE.
3. LIFT THICKNESSES FOR BASE, SUBGRADE AND BACKFILL SHALL BE AS INDICATED ON THE DETAILS OR DESCRIBED IN THE SPECIFICATIONS.
4. MAXIMUM DENSITY SHALL BE DETERMINED BY ASTM D 1557 OR AASHTO T180 (MODIFIED PROCTOR).
5. FIELD DENSITY TESTS SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D 1556 OR D 2922.
6. THE AGGREGATE SHALL BE COMPACTED TO A DEGREE ACCEPTABLE TO THE ENGINEER BY USE OF A VIBRATORY COMPACTOR AND/OR CRAWLER TRACTOR.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | DENSITY TESTING NOTES | DETAIL NO. GNRL 010 REVISED 2017/07/13

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THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

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ENGINEER: CARLOS FLORIAN, P.E.
REG. No: 80500
DATE: 7/30/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

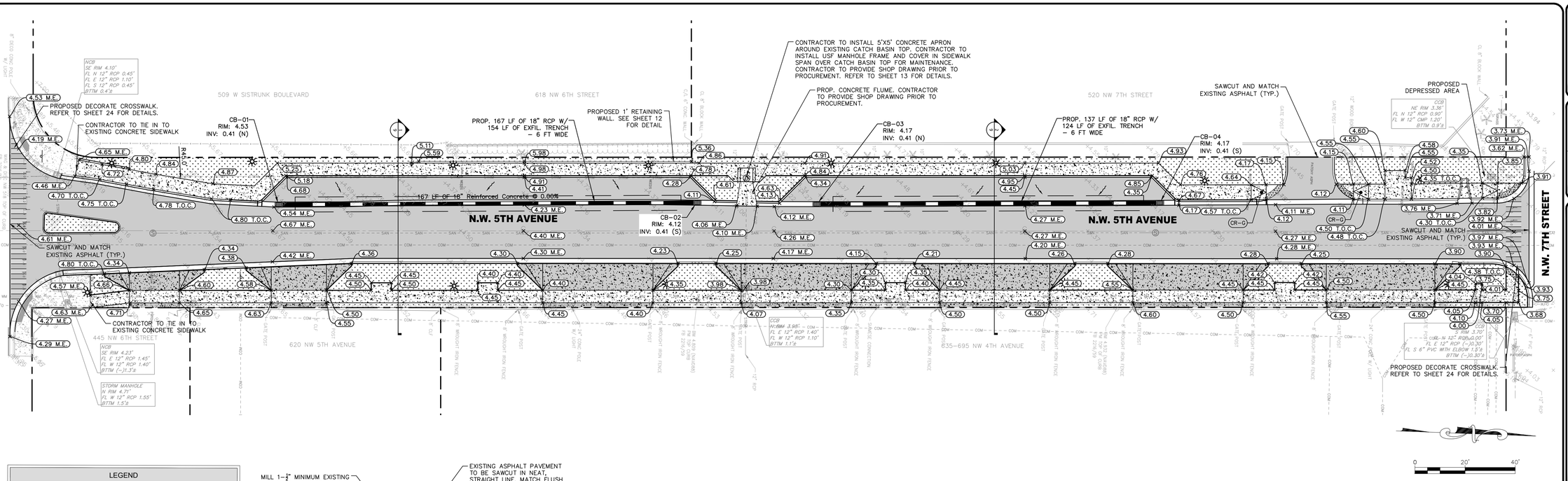
NO.	DESCRIPTION	DATE	BY	CHK'D

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
DEMOLITION AND EROSION CONTROL NOTES

SHEET NO. 7 OF 28

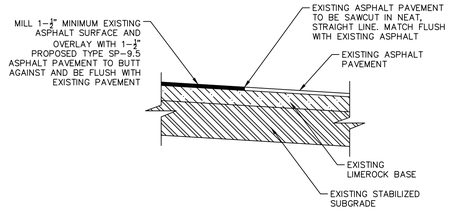
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DRAWING FILE NO.



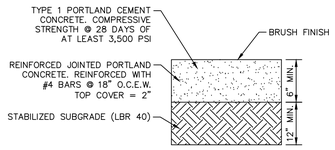
LEGEND	
	PROPERTY LINE
	CENTERLINE
	LOT LINE
SAN SAN	EXISTING SANITARY SEWER
WM WM	EXISTING WATER MAIN
STRM STRM	EXISTING STORM SEWER
COMM COMM	EXISTING COMMUNICATION LINE
O/W O/W	EXISTING OVERHEAD WIRE
X X X X	EXISTING FENCE
	EXISTING CATCH BASIN
	EXISTING FIRE HYDRANT
W	EXISTING WATER METER
	EXISTING WATER VALVE
	PROPOSED SWALE
	PROPOSED CONCRETE SIDEWALK
	PROPOSED DETECTABLE WARNING
	PROPOSED LANDSCAPING
	MILLING AND RESURFACING
	PROPOSED CONCRETE DRIVEWAY
1.00	PROPOSED ELEVATION
2.00 M.E.	PROPOSED MATCH EXISTING ELEVATION
3.00 T.O.C.	PROPOSED TOP OF CURB ELEVATION

NOTES TO CONTRACTOR:

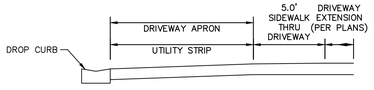
1. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
2. THE CONTRACTOR SHALL CONTACT THE ENGINEER REGARDING ANY GRADING REVISIONS PRIOR TO CONSTRUCTION OF THE PAVEMENT AREAS.
3. CURB RAMPS ALONG PUBLIC STREET AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
4. ALL ACCESSIBLE ROUTES, RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA STANDARDS FOR ACCESSIBLE DESIGN, LATEST EDITION.
5. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES. IN NO CASE SHALL ANY ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND CONCRETE SLABS SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.
6. CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA SLOPE COMPLIANCE ISSUES.



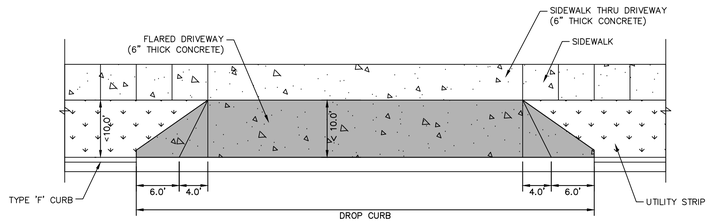
ASPHALT MILLING AND RESURFACING DETAIL
NOT TO SCALE



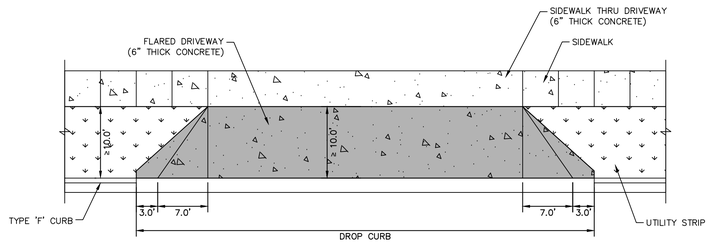
HEAVY DUTY CONCRETE DETAIL
NOT TO SCALE



CONCRETE FLARED DRIVEWAYS ELEVATIONS
GRADE PER PLANS
NOT TO SCALE



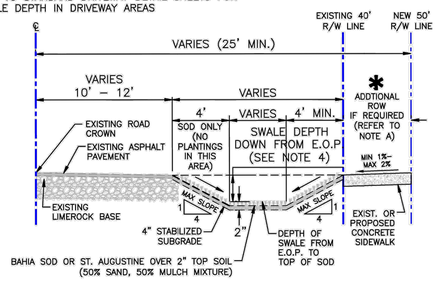
CONCRETE FLARED DRIVEWAYS WITH UTILITY STRIP < 10' WIDE
GRADE PER PLANS
NOT TO SCALE



CONCRETE FLARED DRIVEWAYS WITH UTILITY STRIP ≥ 10' WIDE
GRADE PER PLANS
NOT TO SCALE

CONSTRUCTION NOTES:

1. SWALE SHALL EXTEND ENTIRE LENGTH OF PROPERTY FROM PROPERTY LINE TO PROPERTY LINE.
2. ALL MATERIALS, WORKMANSHIP, AND RESTORATION OF FEATURES IN THE RIGHT-OF-WAY SHALL BE TO THE SATISFACTION OF THE CITY ENGINEER. MATERIAL CERTIFICATIONS, SAMPLES, SHOP DRAWINGS, DENSITY TESTS MAY BE REQUIRED BY THE CITY INSPECTOR FOR VERIFICATION & APPROVAL.
3. ENGINEERING GROUGH SWALE INSPECTION SHALL BE CALLED, INSPECTED AND PASSED PRIOR TO PLACEMENT OF CONCRETE OR ANY LANDSCAPING OR TREE INSTALLATION.
4. FINAL SWALE DEPTHS SHALL MEET THE FOLLOWING AFTER INSTALLATION OF ANY SOD OR PAVERS (INCLUDING HEADER CURBS IF APPLICABLE)
   DEPTHS ARE MEASURED FROM EXISTING EDGE OF PAVEMENT (E.O.P.):
   A. 40' ROW SECTION – 6" MINIMUM DEPTH IN NON PAVED & LANDSCAPED OR SODDED AREAS
   B. 50' ROW SECTION – 8" MINIMUM DEPTH IN NON PAVED & LANDSCAPED OR SODDED AREAS
   C. REFER TO STANDARD DRIVEWAY DETAIL SHEETS FOR SWALE DEPTH IN DRIVEWAY AREAS
5. MINIMUM CLEAR ZONE SHALL BE PROVIDED FROM EDGE OF PAVEMENT.
   A. 4' MINIMUM CLEAR ZONE FOR PLANTINGS OR SMALL GROUNDCOVER (SHALL NOT EXCEED 30" IN FULL GROWN HEIGHT)
   B. 6' MINIMUM CLEAR ZONE FOR TREES (SIGHT TRIANGLE REQUIRED ON PLANS)
6. CENTER BOTTOM OF SWALE BETWEEN EDGE OF PAVEMENT AND NEW RIGHT OF WAY LINE IF NO SIDEWALK EXISTS (SPECIAL S/W WAIVER REQUIRED BY CITY ENGINEER).
7. SIDEWALKS SHALL BE CONCRETE, CONFORM TO CITY ENGINEERING STD DETAIL C1.3R, AND RUN CONTINUOUSLY THROUGH ALL DRIVEWAYS.
8. SITE PREPARATION AND EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. ADDITIONAL EROSION CONTROL MEASURES AFTER INITIAL GROUGH INSPECTION MAY BE REQUIRED.



SPECIAL NOTE:

* A. RIGHT OF WAY SECTION REQUIRED TO BE A MINIMUM OF 25' FROM CENTER LINE OF ROADWAY. WHEN MINIMUM RIGHT OF WAY SECTION IS LESS THAN 25' ABUTTING PROPERTY, AN ADDITIONAL 5' RIGHT OF WAY EASEMENT IS REQUIRED. THIS EASEMENT SHALL BE RECORDED AT BROWARD COUNTY RECORDS, PRIOR TO CLOSE OUT OF PERMIT. INSTRUCTIONS AND CITY STANDARD EASEMENT DOCUMENTS CAN BE LOCATED AT: http://www.fortlauderdale.gov/home/showdocument?id=1558

R1-2/2016

CITY OF FORT LAUDERDALE DEPT. OF SUSTAINABLE DEVELOPMENT	TYPICAL SWALE CROSS SECTION	ISSUED: 2/2016
RIGHT OF WAY ENGINEERING & CONSTRUCTION	CONSTRUCTION IN CITY ROW	DETAIL TITLE: D4.2R

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REG. No: 80500
DATE: 7/30/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025 | SCALE: AS NOTED
DESIGNED BY: EB | CHECKED BY: MM | FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

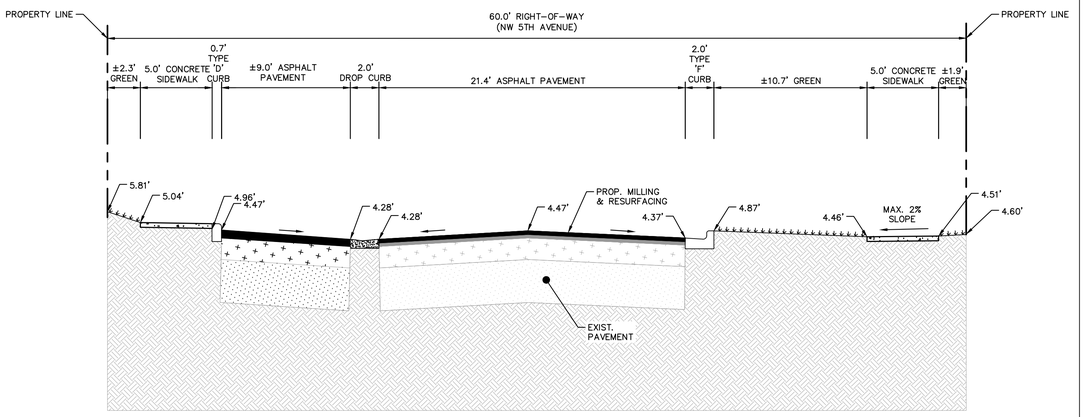
NO.	DATE	BY	CHK'D	DESCRIPTION
REVISIONS				

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
PAVING AND GRADING PLAN

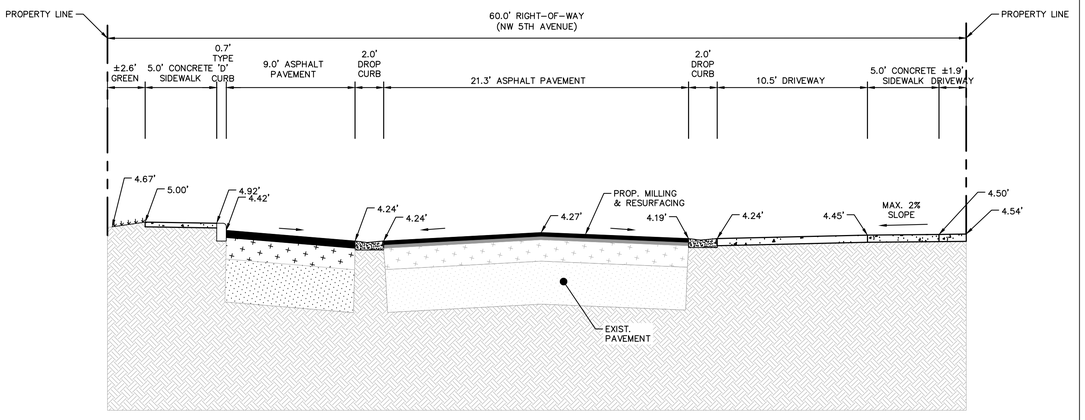
SHEET NO. 8 OF 28

CAD FILE: 8 – PAVING AND GRADING PLAN
DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:7 PAVING AND GRADING PLANS July 30, 2025 10:43:41am K:\fll_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\7 PAVING AND GRADING PLANS.dwg
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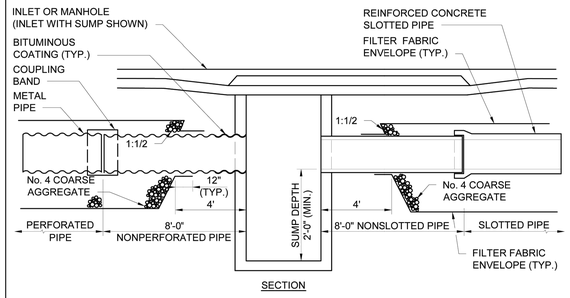


SECTION
NOT TO SCALE
1
8



SECTION
NOT TO SCALE
2
8

STRM001 - EXFILTRATION TRENCH LONGITUDINAL SECTION Wednesday, September 21, 2016



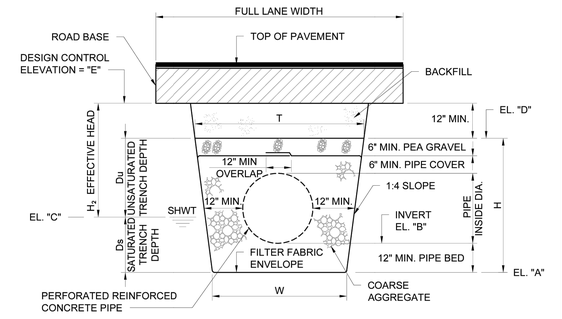
SECTION

NOTES:

1. EXFILTRATION PIPE SHALL COMPLY WITH FDOT STANDARD SPECIFICATION SECTION 443.
2. CONCRETE PIPE SHALL BE PLACED WITH SLOTS POSITIONED ON SIDES.
3. ALIGNMENT JOINTS ARE STANDARD (GASKETS NOT REQUIRED). RECORREGATION OF METAL PIPE ENDS NOT REQUIRED.
4. FILTER FABRIC SHALL BE SUBSURFACE DRAINAGE TYPE PER FDOT SECTION 985. ALL FILTER FABRIC JOINTS SHALL LAP A MINIMUM OF 2 FEET.
5. PREVENT CONTAMINATION OF THE EXFILTRATION TRENCH WITH SAND, SILT AND FOREIGN MATERIALS.
6. NO WEEP HOLES SHALL BE PERMITTED IN STRUCTURES.
7. PIPE INVERT SHALL BE AT OR ABOVE THE WATER TABLE WHEN POSSIBLE.
8. COAT END OF METAL PIPE AT MANHOLE CONNECTION WITH A BITUMINOUS COATING. COATING SHALL EXTEND 12" BEYOND EXTERIOR OF MANHOLE.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	EXFILTRATION TRENCH LONGITUDINAL SECTION	DETAIL NO. STRM 001 REVISED 2016/09/21

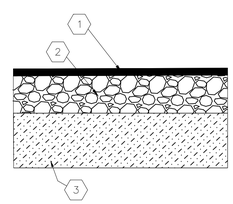
STRM002 - EXFILTRATION TRENCH CROSS SECTION Tuesday, September 20, 2016



TRENCH SCHEDULE		
PARAMETER	TRENCH 1	TRENCH 2
PIPE DIAMETER	1.50'	
W	6.00'	
T	6.00'	
H	10.51'	
Ds	10.51'	
Du	0.00'	
H_2	1.12'	
EL. "A"	-7.51'	
EL. "B"	0.41'	
EL. "C"(SHWT)	2.38'	
EL. "D"	2.50'	
EL. "E" (DCE)	3.50'	

NOTES:
DCE: DESIGN CONTROL ELEVATION
SHWT: SEASONAL HIGH WATER TABLE

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	EXFILTRATION TRENCH CROSS SECTION	DETAIL NO. STRM 002 REVISED 2016/09/21



PAVING LEGEND

1. 2" ASPHALT SURFACE TYPE SP-9.5 OR APPROVED EQUAL
2. 8" LIMEROCK BASE COMPACTED IN 1 LIFT WITH MINIMUM LBR OF 100
3. 12" THICK SUBGRADE COMPACTED AND STABILIZED WITH MINIMUM DESIGN LBR OF 40 COMPACTED TO AT LEAST 98% OF MAXIMUM DRY DENSITY (AASHTO T-180)

PAVEMENT CROSS-SECTION
NOT TO SCALE

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PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
CROSS SECTIONS

SHEET NO. 9 OF 28

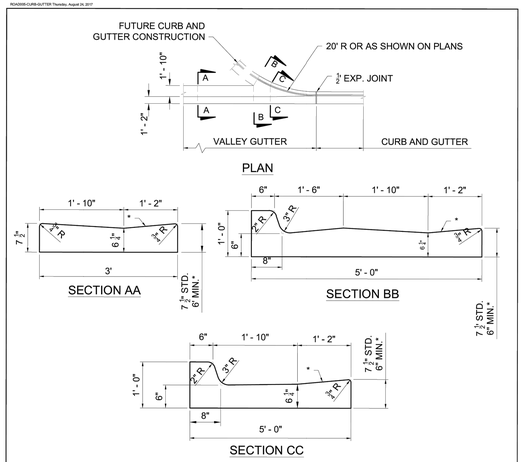
CAD FILE:
8 - PAVING AND GRADING PLAN

DRAWING FILE NO.

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ROAD006-CURB-GUTTER Thursday, August 24, 2017

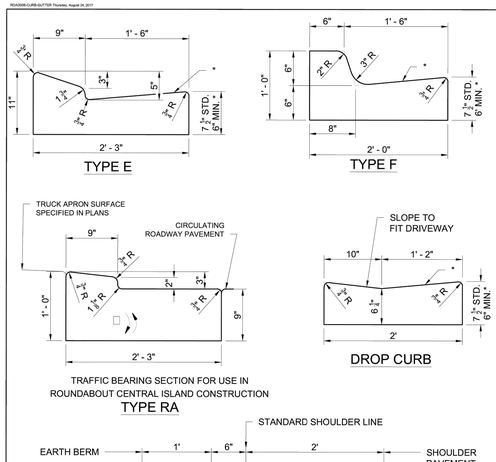


NOTES:

1. WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. THE THICKNESS OF THE LIP SHALL BE 6", UNLESS OTHERWISE SHOWN ON PLANS.
2. ROTATE ENTIRE SECTION SO THAT GUTTER CROSS SLOPE MATCHES SLOPE OF ADJACENT CIRCULATING ROADWAY PAVEMENT.
3. FOR USE ADJACENT TO CONCRETE OR FLEXIBLE PAVEMENT. FOR DETAILS DEPICTING USAGE ADJACENT TO FLEXIBLE PAVEMENT, SEE SHEET 2. EXPANSION JOINT, PREFORMED JOINT FILLER AND JOINT SEAL ARE REQUIRED BETWEEN CURB & GUTTER AND CONCRETE PAVEMENT ONLY. SEE SHEET 2.
4. 4" CURB PAD (LBR 100, 98% COMPACTION T-180) TO BE PLACED UNDER CURB AND GUTTER, AND EXTEND 6" BEYOND OUTSIDE EDGE OF CURB. SEE SPECIFICATIONS FOR MATERIAL

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	CONCRETE CURB AND GUTTER VALLEY GUTTER SHEET 1	DETAIL NO. ROAD 005 REVISED 2017/03/11

ROAD008-CURB-GUTTER Thursday, August 24, 2017

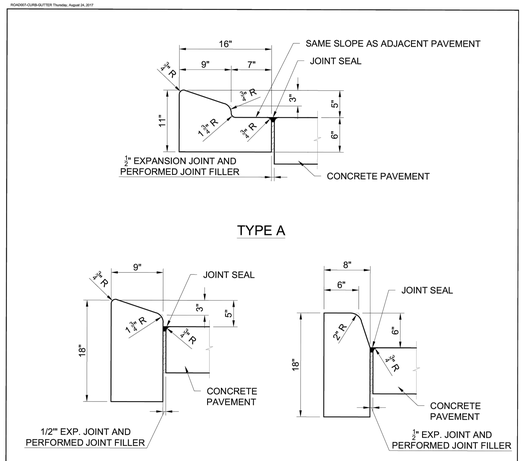


NOTE:

4" CURB PAD (LBR 100, 98% COMPACTION T-180) TO BE PLACED UNDER CURB AND GUTTER, AND EXTEND 6" BEYOND OUTSIDE EDGE OF CURB. SEE SPECIFICATIONS FOR MATERIAL

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	CONCRETE CURB AND GUTTER TYPE E, TYPE F, TYPE RA, DROP CURB, AND SHOULDER GUTTER SHEET 2	DETAIL NO. ROAD 006 REVISED 2017/03/11

ROAD007-CURB-GUTTER Thursday, August 24, 2017

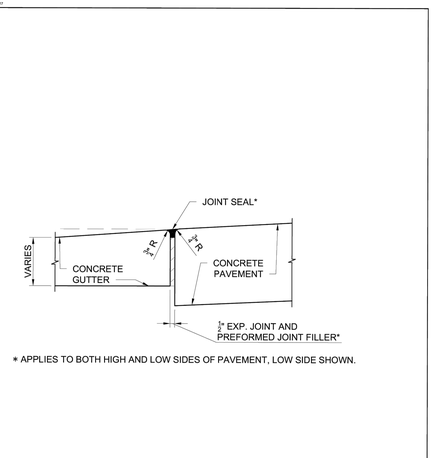


NOTES:

1. FOR USE ADJACENT TO CONCRETE OR FLEXIBLE PAVEMENT, CONCRETE SHOWN. EXPANSION JOINT, PREFORMED JOINT FILLER AND JOINT SEAL ARE REQUIRED BETWEEN CURBS AND CONCRETE PAVEMENT ONLY.
2. 4" CURB PAD (LBR 100, 98% COMPACTION T-180) TO BE PLACED UNDER CURB AND GUTTER, AND EXTEND 6" BEYOND OUTSIDE EDGE OF CURB. SEE SPECIFICATIONS FOR MATERIAL

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	CONCRETE CURB AND GUTTER TYPE A, TYPE B, AND TYPE D SHEET 3	DETAIL NO. ROAD 007 REVISED 2017/03/11

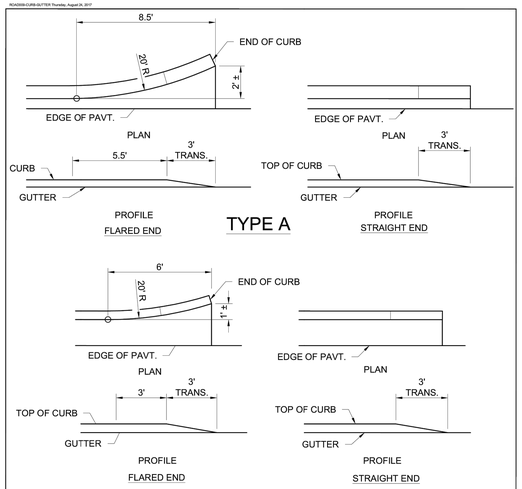
ROAD009-CURB-GUTTER Thursday, August 24, 2017



* APPLIES TO BOTH HIGH AND LOW SIDES OF PAVEMENT, LOW SIDE SHOWN.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	CONCRETE CURB AND GUTTER EXPANSION JOINT BETWEEN GUTTER AND CONCRETE PAVEMENT SHEET 4	DETAIL NO. ROAD 008 REVISED 2017/03/11

ROAD004-CURB-GUTTER Thursday, August 24, 2017

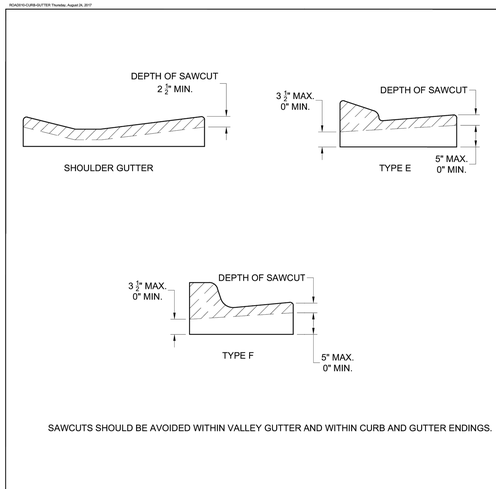


NOTES:

1. FOR CURB, GUTTER AND CURB & GUTTER PROVIDE ⅛" - ¼" CONTRACTION JOINTS AT 10' CENTERS (MAX.). CONTRACTION JOINTS ADJACENT TO CONCRETE PAVEMENT ON TANGENTS AND FLAT CURVES ARE TO MATCH THE PAVEMENT JOINTS, WITH INTERMEDIATE JOINTS NOT TO EXCEED 10' CENTERS. CURB, GUTTER AND CURB & GUTTER EXPANSION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH SECTION 520 OF THE STANDARD SPECIFICATIONS.
2. ENDS OF CURBS TYPES B AND D SHALL TRANSITION FROM FULL TO ZERO HEIGHTS IN 3'.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	CONCRETE CURB AND GUTTER CURB AND GUTTER ENDINGS SHEET 5	DETAIL NO. ROAD 009 REVISED 2017/03/11

ROAD010-CURB-GUTTER Thursday, August 24, 2017



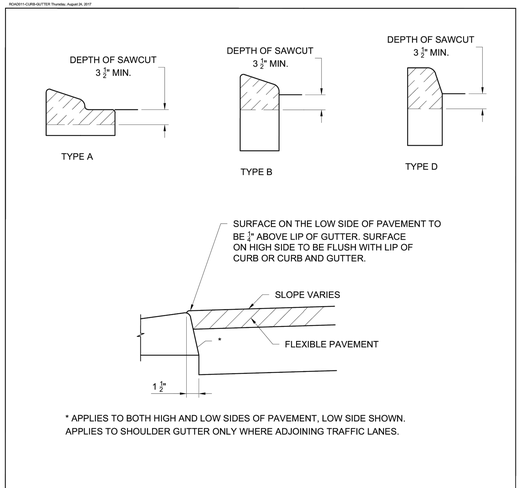
SAWCUTS SHOULD BE AVOIDED WITHIN VALLEY GUTTER AND WITHIN CURB AND GUTTER ENDINGS.

NOTES:

1. FOR CURB, GUTTER AND CURB & GUTTER PROVIDE ⅛" - ¼" CONTRACTION JOINTS AT 10' CENTERS (MAX.). CONTRACTION JOINTS ADJACENT TO CONCRETE PAVEMENT ON TANGENTS AND FLAT CURVES ARE TO MATCH THE PAVEMENT JOINTS, WITH INTERMEDIATE JOINTS NOT TO EXCEED 10' CENTERS. CURB, GUTTER AND CURB & GUTTER EXPANSION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH SECTION 520 OF THE STANDARD SPECIFICATIONS.
2. ENDS OF CURBS TYPES B AND D SHALL TRANSITION FROM FULL TO ZERO HEIGHTS IN 3'.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	CONCRETE CURB AND GUTTER CONTRACTION JOINT IN CURB SHEET 6	DETAIL NO. ROAD 010 REVISED 2017/03/11

ROAD011-CURB-GUTTER Thursday, August 24, 2017



* APPLIES TO BOTH HIGH AND LOW SIDES OF PAVEMENT, LOW SIDE SHOWN.
APPLIES TO SHOULDER GUTTER ONLY WHERE ADJOINING TRAFFIC LANES.

NOTES:

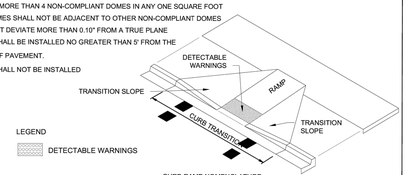
1. FOR CURB, GUTTER AND CURB & GUTTER PROVIDE ⅛" - ¼" CONTRACTION JOINTS AT 10' CENTERS (MAX.). CONTRACTION JOINTS ADJACENT TO CONCRETE PAVEMENT ON TANGENTS AND FLAT CURVES ARE TO MATCH THE PAVEMENT JOINTS, WITH INTERMEDIATE JOINTS NOT TO EXCEED 10' CENTERS. CURB, GUTTER AND CURB & GUTTER EXPANSION JOINTS SHALL BE LOCATED IN ACCORDANCE WITH SECTION 520 OF THE STANDARD SPECIFICATIONS.
2. ENDS OF CURBS TYPES B AND D SHALL TRANSITION FROM FULL TO ZERO HEIGHTS IN 3'.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	CONCRETE CURB AND GUTTER CONTRACTION JOINT IN CURB SHEET 7	DETAIL NO. ROAD 011 REVISED 2017/03/11

ROAD013-DETECTABLE WARNING Thursday, August 24, 2017

GENERAL NOTES

1. SIDEWALK CURB RAMPS SHALL BE CONSTRUCTED AT LOCATIONS THAT WILL PROVIDE CONTINUOUS UNOBSTRUCTED PEDESTRIAN CIRCULATION PATH TO PEDESTRIAN AREAS, ELEMENTS AND FACILITIES WITHIN THE RIGHT OF WAY AND TO ACCESSIBLE PEDESTRIAN ROUTES ON ADJACENT SITES. CURBED FACILITIES WITH SIDEWALKS AND THOSE WITHOUT SIDEWALKS ARE TO HAVE CURB RAMPS CONSTRUCTED FOR ALL INTERSECTIONS AND TURNOUTS WITH CURBED RETURNS. TO ACCOMMODATE CURB RAMPS, PARTIAL CURB RETURNS ARE TO EXTEND TO THE LIMITS PRESCRIBED IN INDEX NO. 515. RAMPS CONSTRUCTED AT LOCATIONS WITHOUT SIDEWALKS ARE TO HAVE A LANDING CONSTRUCTED AT THE TOP OF EACH RAMP, SEE LANDINGS FOR CURB RAMPS WITHOUT SIDEWALKS.
2. WHEN ALTERING EXISTING PEDESTRIAN FACILITIES, WHERE EXISTING RESTRICTED CONDITIONS PRECLUDE THE ACCOMMODATION OF A RAMP SLOPE OF 1:12, A RAMP SLOPE BETWEEN 1:12 AND 1:10 IS PERMITTED FOR A RISE OF 6" MAXIMUM. WHERE COMPLIANCE WITH THE REQUIREMENTS FOR CROSS SLOPE CANNOT BE FULLY MET, THE MINIMUM FEASIBLE CROSS SLOPE SHALL BE PROVIDED. RAMP SLOPES ARE NOT REQUIRED TO EXCEED 15' IN LENGTH.
3. IF SIDEWALK CURB RAMPS ARE LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP, THEN PROVIDE TRANSITION SLOPES TO THE RAMP; OTHERWISE A SIDEWALK CURB MAY BE REQUIRED.
4. ALL SIDEWALKS, RAMPS, AND LANDINGS WITH A CROSS SLOPE OF 0.02 SHOWN IN THIS INDEX ARE 0.02 MAXIMUM. ALL RAMP SLOPES SHOWN IN THIS INDEX AS 1:12 ARE 1:12 MAXIMUM. LANDINGS SHALL HAVE SLOPES LESS THAN OR EQUAL TO 0.02 IN ANY DIRECTION.
5. GRADE BREAKS AT THE TOP AND BOTTOM OF RAMPS SHALL BE PARALLEL TO EACH OTHER AND PERPENDICULAR TO THE DIRECTION OF THE RAMP SLOPE.
6. WHERE A SIDEWALK CURB RAMP IS CONSTRUCTED WITHIN EXISTING CURB, CURB AND GUTTER AND/OR SIDEWALK, THE EXISTING CURB OR CURB AND GUTTER SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE CURB TRANSITION OR TO THE EXTENT THAT NO REMAINING SECTION OF CURB OR CURB AND GUTTER IS LESS THAN 5' LONG. EXISTING SIDEWALKS SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE TRANSITION SLOPE OR TO THE EXTENT THAT NO REMAINING SECTION OF SIDEWALK IS LESS THAN 5' LONG. FOR CONCRETE SIDEWALK DETAILS REFER TO INDEX 310.
7. SIDEWALK CURB RAMP ALPHA-IDENTIFICATIONS ARE FOR REFERENCE PURPOSES (PLANS, PERMITS, ETC.). ALPHA-IDENTIFICATIONS CR-I AND CR-J WERE INTENTIONALLY OMITTED.
8. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE RAMP AND TO A DEPTH OF 2'. DETECTABLE WARNINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SPECIFICATION SECTION 527. FOR THE LAYOUT OF DETECTABLE WARNINGS, REFER TO THE TYPICAL PLACEMENT OF DETECTABLE WARNINGS DETAILS. DETECTABLE WARNINGS SHALL NOT BE PROVIDED ON TRANSITION SLOPES.
9. WHEN DETECTABLE WARNINGS ARE PLACED ON A SLOPE GREATER THAN 5%, DOMES SHALL BE ALIGNED WITH THE CENTERLINE OF THE RAMP; OTHERWISE DOMES ARE NOT REQUIRED TO BE ALIGNED.
10. DETECTABLE WARNINGS SHALL BE REQUIRED ON SIDEWALKS AND SHARED USE PATHS AT:
    A. INTERSECTING ROADS
    B. MEDIAN CROSSINGS GREATER THAN OR EQUAL TO 6' IN WIDTH
    C. RAILROAD CROSSINGS
    D. SIGNALIZED DRIVEWAYS
11. DETECTABLE WARNINGS - ACCEPTANCE CRITERIA:
    A. COLOR AND TEXTURE SHALL BE COMPLETE AND UNIFORM
    B. 90% OF INDIVIDUAL TRUNCATED DOMES SHALL BE IN
    C. ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT STANDARDS FOR TRANSPORTATION FACILITIES, SECTION 705
    D. THERE SHALL BE NO MORE THAN 4 NON-COMPLIANT DOMES IN ANY ONE SQUARE FOOT
    E. NON-COMPLIANT DOMES SHALL NOT BE ADJACENT TO OTHER NON-COMPLIANT DOMES
    F. SURFACES SHALL NOT DEVIATE MORE THAN 0.10" FROM A TRUE PLANE
12. DETECTABLE WARNINGS SHALL BE INSTALLED NO GREATER THAN 5' FROM THE BACK OF CURB OR EDGE OF PAVEMENT.
13. DETECTABLE WARNINGS SHALL NOT BE INSTALLED OVER GRADE BREAKS.



CURB RAMP NOMENCLATURE PICTORIAL VIEW

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	DETAIL NO. ROAD 013 REVISED 2017/03/11

811 Know what's below. Call before you dig. 811 or 1-800-432-4770 or visit www.callsunshine.com

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

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ENGINEER: CARLOS FLORIAN, P.E.
REG. No: 80500
DATE: 7/30/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
PAVING AND GRADING DETAILS

SHEET NO. 10 OF 28

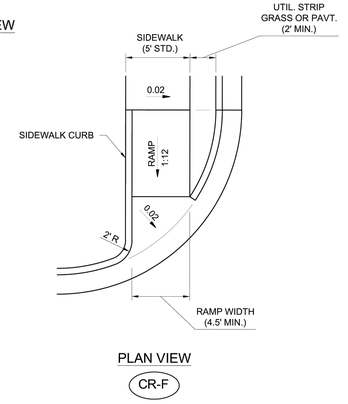
CAD FILE: 10 - PAVING AND GRADING DETAILS
DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:10 PAVING AND GRADING DETAILS July 30, 2025 10:43:52am K:\ftl_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plotsheets\7 PAVING AND GRADING PLANS.dwg
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ROADS15-SIDEWALK RAMPS Thursday, August 24, 2017

PICTORIAL VIEW

CR-F



PLAN VIEW

CR-F

DIMENSIONAL FEATURES OF SIDEWALK CURB RAMPS FOR LINEAR PEDESTRIAN TRAFFIC

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

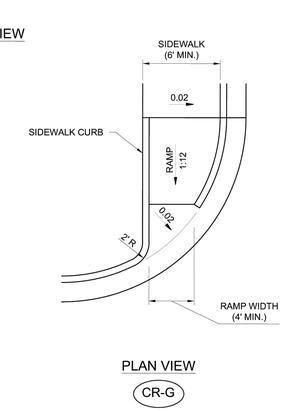
SIDEWALK CURB RAMPS
SHEET 6

INDEX NO. ROAD 019
REVISED 2017/03/11

ROADS20-SIDEWALK RAMPS Thursday, August 24, 2017

PICTORIAL VIEW

CR-G



PLAN VIEW

CR-G

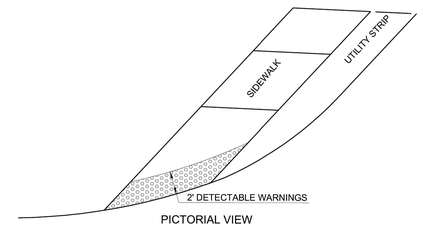
DIMENSIONAL FEATURES OF SIDEWALK CURB RAMPS FOR LINEAR PEDESTRIAN TRAFFIC

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

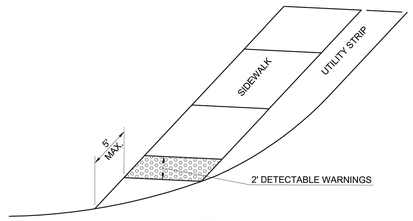
SIDEWALK CURB RAMPS
SHEET 7

INDEX NO. ROAD 020
REVISED 2017/03/11

ROADS25-SIDEWALK RAMPS Thursday, August 24, 2017



PICTORIAL VIEW
FLUSH SHOULDER
(OPTION A)



PICTORIAL VIEW
FLUSH SHOULDER
(OPTION B)

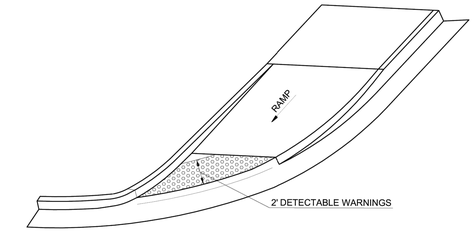
TYPICAL PLACEMENT OF DETECTABLE WARNINGS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

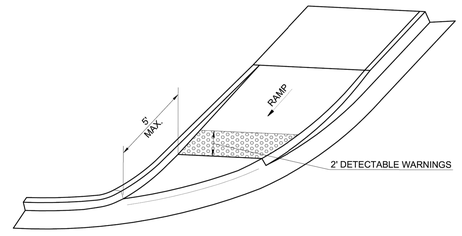
SIDEWALK CURB RAMPS
SHEET 16

INDEX NO. ROAD 029
REVISED 2017/03/11

ROADS30-SIDEWALK RAMPS Thursday, August 24, 2017



PICTORIAL VIEW CR-G SHOWN
(OPTION A) (CR-F AND CR-H SIMILAR)



PICTORIAL VIEW CR-G SHOWN
(OPTION B) (CR-F AND CR-H SIMILAR)

TYPICAL PLACEMENT OF DETECTABLE WARNINGS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

SIDEWALK CURB RAMPS
SHEET 17

INDEX NO. ROAD 030
REVISED 2017/03/11

ROADS03-TABLE DECT WARNING Thursday, August 24, 2017

TABLE OF DETECTABLE WARNINGS

CURB RAMP TYPE	CURB RADIUS (FT)	TOTAL AREA (SF)
CR-A	N/A	8
CR-B	N/A	8
CR-C	N/A	8
CR-D	25	11
CR-E	N/A	8
CR-F	10	9
	20	11
	25	13
	30	14
CR-G	10	10
	20	11
	25	12
	30	14
CR-H	20	8
	25	8
	30	8
CR-K	N/A	8
CR-L	10	18
	15	13
FLUSH SHOULDER		
OPTION A	10	11
	20	14
	25	15
	30	17
	40	19
	50	21
OPTION B	10	10
	20	10
	25	10

NOTE:

DUE TO CONSTRUCTION APPLICATIONS, CR-L IS THE ONLY CURB RAMP FOR WHICH A DETECTABLE WARNING QUANTITY WAS CALCULATED USING A CURB RADIUS OF 15'.

FOR FLUSH SHOULDER OPTIONS WITH 5' SIDEWALKS, THE BACK OF SIDEWALK IS MEASURED AT 10' FROM THE EDGE OF TRAVELED WAY.

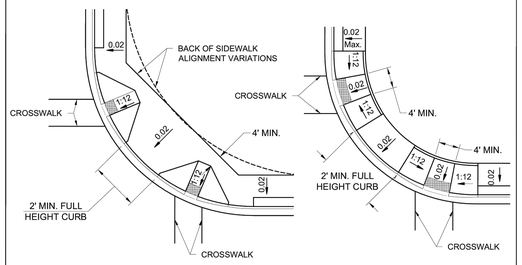
AREAS OF DETECTABLE WARNINGS FOR SIDEWALK CURB RAMP AND FLUSH SHOULDER APPLICATIONS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

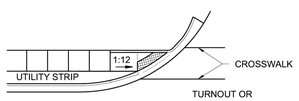
TABLE OF DETECTABLE WARNINGS
SHEET 20

INDEX NO. ROAD 033
REVISED 2017/03/11

ROADS24-PLACEMENT SIDEWALK RAMPS Thursday, August 24, 2017



RADIAL SIDEWALK RAMPS



LINEAR SIDEWALK RAMPS

NOTES:

1. WHERE CROSSWALK MARKINGS ARE USED, RAMPS SHALL FALL WITHIN THE CROSSWALK LIMITS. A CLEAR SPACE OF 48" MINIMUM IS REQUIRED AT THE BOTTOM OF THE RAMP WITHIN A MARKED CROSSWALK. IF CROSSWALK MARKINGS ARE NOT PRESENT, A CLEAR SPACE OF 48" MINIMUM IS REQUIRED AT THE BOTTOM OF THE RAMP OUTSIDE OF ACTIVE TRAVEL LANES.
2. CROSSWALK WIDTHS AND CONFIGURATIONS VARY; MUST CONFORM TO INDEX NO. 17344 AND 17346.

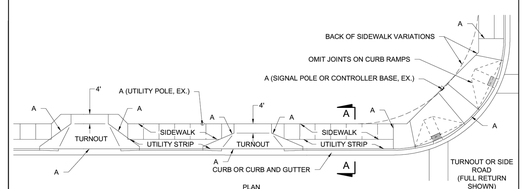
TYPICAL PLACEMENT OF SIDEWALK CURB RAMPS AT CURBED RETURNS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
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100 North Andrews Avenue, Fort Lauderdale, Florida 33301

TYPICAL PLACEMENT OF SIDEWALK CURB RAMPS AT CURBED RETURNS
SHEET 21

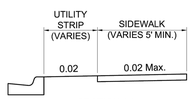
INDEX NO. ROAD 034
REVISED 2017/03/11

ROADS35-CONC SIDEWALK Thursday, August 24, 2017



PLAN

SIDEWALK WITH UTILITY STRIP



SECTION AA

NOTES FOR CONCRETE SIDEWALK ON CURBED ROADWAYS

1. CONSTRUCT SIDEWALKS IN ACCORDANCE WITH SPECIFICATION SECTION 522.
2. INCLUDE DETECTABLE WARNINGS ON SIDEWALK CURB RAMPS AND CONSTRUCT IN ACCORDANCE WITH INDEX NO. 304.
3. DETECTABLE WARNINGS ARE NOT REQUIRED WHERE SIDEWALKS INTERSECT URBAN FLARED TURNOUTS.
4. BOND BREAKER MATERIAL CAN BE ANY IMPERMEABLE COATED OR SHEET MEMBRANE OR PREFORMED MATERIAL HAVING A THICKNESS OF NOT LESS THAN 6 MILS NOR MORE THAN ½".
5. FOR TURNOUTS SEE INDEX NO. 515.
6. CONSTRUCT SIDEWALKS WITH 1' THICK EDGE BEAM THROUGH THE LIMITS OF ANY SURFACE MOUNTED PEDESTRIAN/BICYCLE PICKET RAILING OR PIPE GUIDERAIL SHOWN IN THE PLANS.

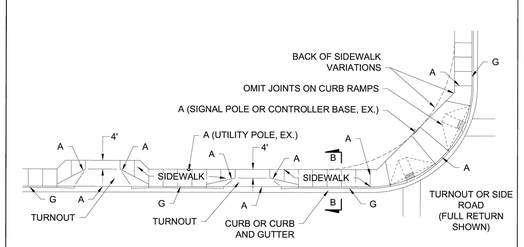
CONCRETE SIDEWALK ON CURBED ROADWAYS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

CONCRETE SIDEWALK
SHEET 1

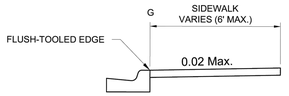
INDEX NO. ROAD 035
REVISED 2017/03/11

ROADS36-CONC SIDEWALK Thursday, August 24, 2017



PLAN

SIDEWALK WITHOUT UTILITY STRIP



SECTION BB

NOTES FOR CONCRETE SIDEWALK ON CURBED ROADWAYS

1. CONSTRUCT SIDEWALKS IN ACCORDANCE WITH SPECIFICATION SECTION 522.
2. INCLUDE DETECTABLE WARNINGS ON SIDEWALK CURB RAMPS AND CONSTRUCT IN ACCORDANCE WITH INDEX NO. 304.
3. DETECTABLE WARNINGS ARE NOT REQUIRED WHERE SIDEWALKS INTERSECT URBAN FLARED TURNOUTS.
4. BOND BREAKER MATERIAL CAN BE ANY IMPERMEABLE COATED OR SHEET MEMBRANE OR PREFORMED MATERIAL HAVING A THICKNESS OF NOT LESS THAN 6 MILS NOR MORE THAN ½".
5. FOR TURNOUTS SEE INDEX NO. 515.
6. CONSTRUCT SIDEWALKS WITH 1' THICK EDGE BEAM THROUGH THE LIMITS OF ANY SURFACE MOUNTED PEDESTRIAN/BICYCLE PICKET RAILING OR PIPE GUIDERAIL SHOWN IN THE PLANS.

CONCRETE SIDEWALK ON CURBED ROADWAYS

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

CONCRETE SIDEWALK
SHEET 2

INDEX NO. ROAD 036
REVISED 2017/03/11

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ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

PREPARED BY:
Kimley»Horn

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ENGINEER:
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REG. No: 80500
DATE: 7/30/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

REVISIONS

NO.	DATE	BY	CH'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

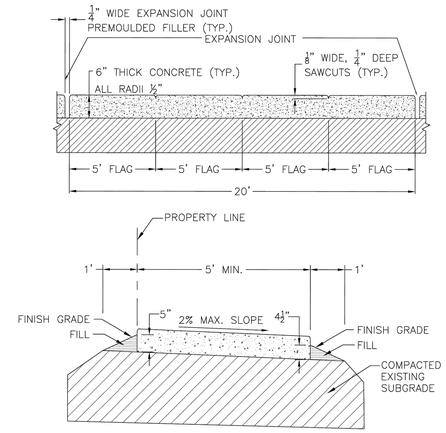
PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
PAVING AND GRADING DETAILS

SHEET NO. 11 OF 28

CAD FILE:
11 - PAVING AND GRADING DETAILS

DRAWING FILE NO.

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

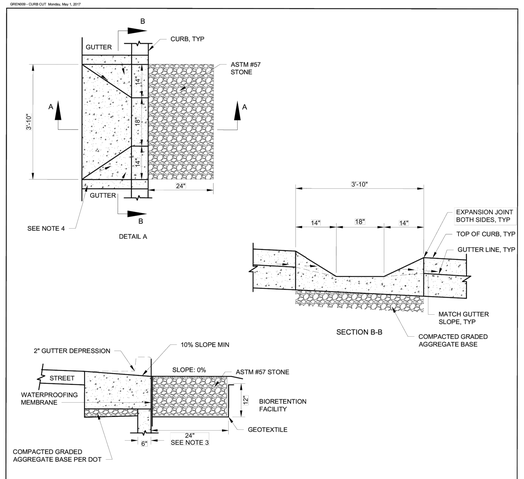


NOTES:

1. A MINIMUM OF 6" THICK SIDEWALK IS REQUIRED ON ALL SIDEWALK APPLICATIONS.
2. CONCRETE STRENGTH SHALL BE 3000 P.S.I.
3. THE USE OF REINFORCEMENT WILL NOT BE PERMITTED.
4. SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA).

DATE: JAN.'82	SCALE: N.T.S.	SIDEWALK CONSTRUCTION	C
REVISED: OCT. 2015	DRAWN BY:		2.1

GRENWIS-CURB CUT Monday, May 1, 2017



NOTES:

1. TYPE AND SIZE OF INLET AS SHOWN ON CONTRACT DOCUMENTS.
2. MATCH INLET CURB TYPE AND WIDTH TO ADJACENT NEW CURB.
3. STONE EXTENTS MAY BE DECREASED DEPENDING ON SPACE AVAILABLE IN SPECIFIC GI FACILITIES.
4. STONE SHALL BE PLACE ADJACENT TO EPOXY BONDED STONE.
5. DEPRESS GUTTER PER DOT STANDARDS.

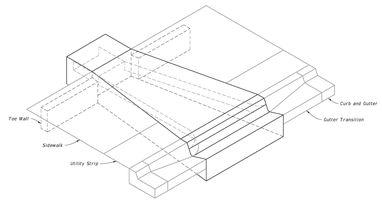
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301	CURB CUT	STDG. NO. GREN 009 REVISED 2017/5/1

GENERAL NOTES:

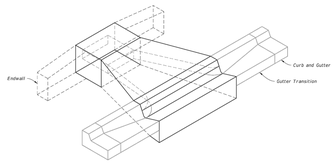
1. The finished grate and slope of the inlet top are to conform with the finished cross slope and grade of the proposed sidewalk and/or border.
2. When inlets are to be constructed on a curve, refer to the plans to determine the radius. Bend steel when necessary.
3. Inlets can be either cast-in-place or precast concrete. Chamfer all exposed edges ¾".
4. All reinforcement is ASTM A615/A615M Grade 60 steel, either smooth or deformed with a 2" minimum cover, unless otherwise shown. Equivalent area grade 40 steel or 65 ksi welded wire fabric may be substituted.

TABLE OF CONTENTS:

Sheet	Description
1	General Notes and Contents
2	Type-I Dimensional Details
3	Reinforcing Details
4	Type-II Dimensional Details
5	Multiple Barrel Flumes

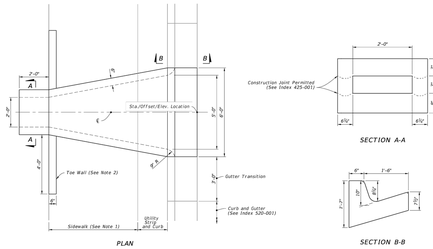


TYPE I CLOSED FLUME INLET WITH SIDEWALK
Single Barrel Flume Shown

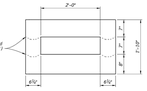


TYPE II CLOSED FLUME INLET WITHOUT SIDEWALK
Single Barrel Flume Shown

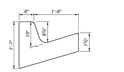
LAST REVISION 10/01/20	BY: KTS DESCRIPTION:	FY 2023-24 STANDARD PLANS	CLOSED FLUME INLET	INDEX 425-061	SHEET 1 of 5



PLAN



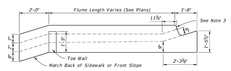
SECTION A-A



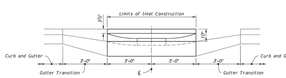
SECTION B-B

NOTES:

1. Use sloped section with sidewalk applications only.
2. Use Toe Walls with Sidewalk application only. For Endwall without Sidewalk see DETAILS on Sheet 4.
3. Slope to match adjacent curb with 2" top radius and 1½" bottom radius.
4. See Sheet 5 for multiple barrel flumes span variation.



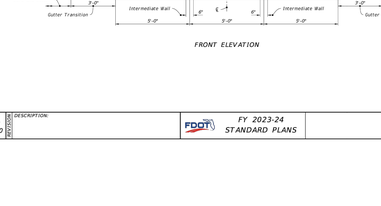
SIDE ELEVATION



FRONT ELEVATION

TYPE-I DIMENSIONAL DETAILS

LAST REVISION 10/01/21	BY: KTS DESCRIPTION:	FY 2023-24 STANDARD PLANS	CLOSED FLUME INLET	INDEX 425-061	SHEET 2 of 5



PLAN

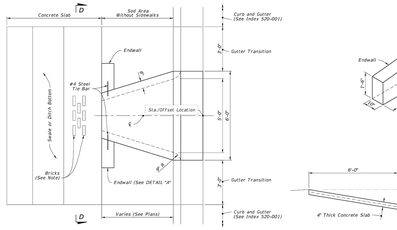
NOTE:
Type I Closed Flume Inlet shown, Type II Closed Flume Inlet Similar.

SECTION C-C

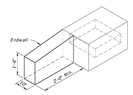
SIDE ELEVATION

REINFORCING DETAILS

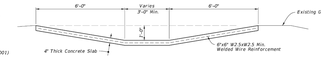
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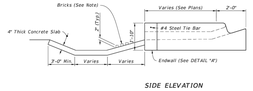
PLAN



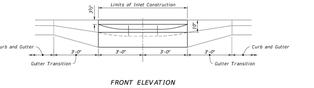
DETAIL "A"



SECTION D-D



SIDE ELEVATION

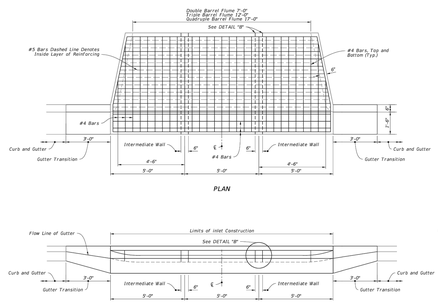


FRONT ELEVATION

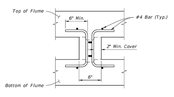
NOTE:
When called for in the Plans, install bricks to dissipate energy.

TYPE II DIMENSIONAL DETAILS

LAST REVISION 10/01/20	BY: KTS DESCRIPTION:	FY 2023-24 STANDARD PLANS	CLOSED FLUME INLET	INDEX 425-061	SHEET 4 of 5



PLAN



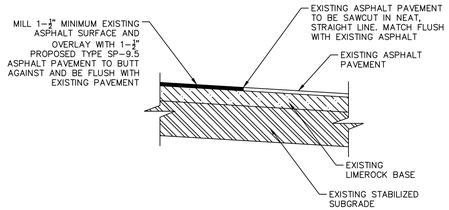
Intermediate Wall Reinforcing
DETAIL "B"

FRONT ELEVATION

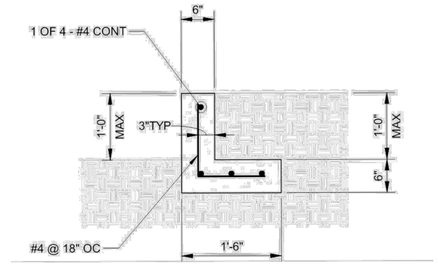
NOTE:
Triple barrel flume shown, double and quadruple similar.

MULTIPLE BARREL FLUMES

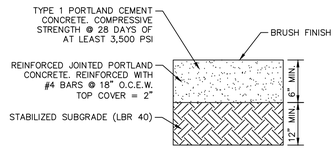
LAST REVISION 10/01/20	BY: KTS DESCRIPTION:	FY 2023-24 STANDARD PLANS	CLOSED FLUME INLET	INDEX 425-061	SHEET 5 of 5



ASPHALT MILLING AND RESURFACING DETAIL
NOT TO SCALE



RETAINING WALL DETAIL
NOT TO SCALE



HEAVY DUTY CONCRETE DETAIL
NOT TO SCALE

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THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

PREPARED BY:
Kimley»Horn

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ENGINEER: CARLOS FLORIAN, P.E.
REG. No: 80500
DATE: 7/30/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

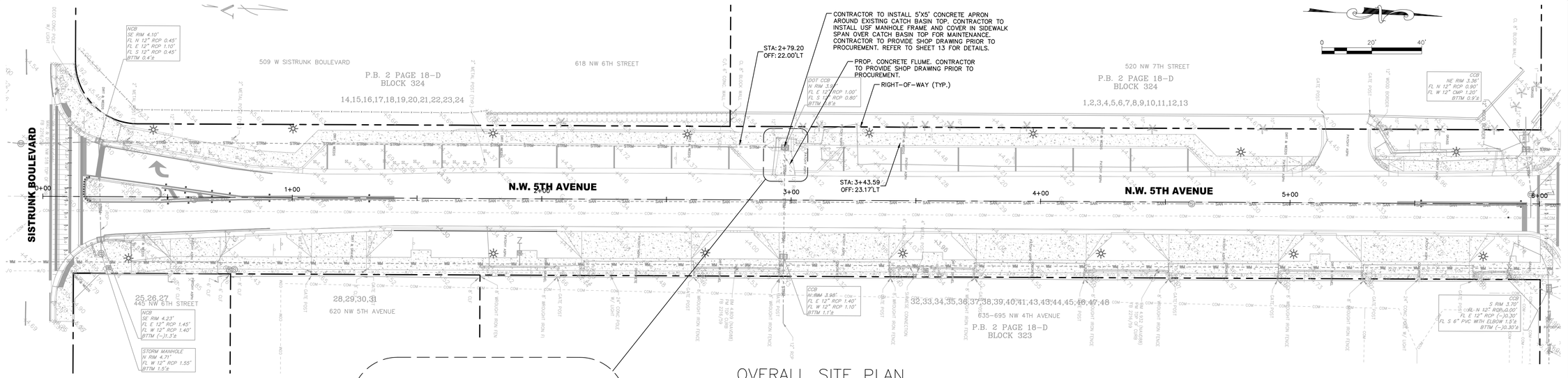
CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
PAVING AND GRADING DETAILS

SHEET NO. 12	OF 28

CAD FILE: 12 - PAVING AND GRADING DETAILS
DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:11 PAVING AND GRADING DETAILS July 30, 2025 10:43:57am K:\Ft_civil\043 jobs\043184255 rfa 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plotsheets\7 PAVING AND GRADING PLANS.dwg
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OVERALL SITE PLAN

SCALE: 1" = 20'

STRUCTURAL NOTES

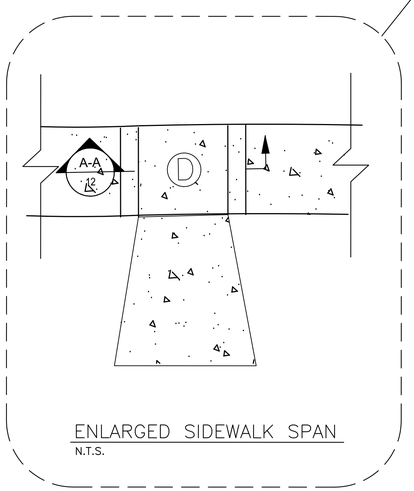
1. THE NOTES ARE NOT INTENDED TO REPLACE THE MANUFACTURER'S RECOMMENDATIONS OR CONSTRUCTION DRAWING NOTES & DETAILS IN CASE OF CONFLICT BETWEEN THE REQUIREMENTS OF THE MANUFACTURER'S RECOMMENDATIONS/CONSTRUCTION DRAWINGS AND THESE NOTES, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
2. THE GOVERNING CODE FOR THIS PROJECT IS THE 2023 FLORIDA BUILDING CODE.
3. THE CONTRACT DOCUMENTS HAVE MADE NO INTENT TO GIVE SPECIFIC INSTRUCTIONS CONCERNING THE MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND ASSIGNMENT OF WORK.
4. COMPLY WITH THE REQUIREMENTS OF THE GOVERNING BUILDING CODE AND ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL CODES, STANDARDS, REGULATIONS, AND LAWS.
5. CONTRACTOR SHALL VISIT PROJECT SITE AND BE FAMILIAR WITH THE PROPOSED WORK, TAKE FIELD MEASUREMENTS, AND VERIFY ALL FIELD CONDITIONS, AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
6. REVIEW ALL CONTRACT DOCUMENTS, DIMENSIONS, SITE CONDITIONS, AND COORDINATE WITH FIELD DIMENSIONS AND PROJECT SHOP DRAWINGS PRIOR TO CONSTRUCTION.
7. SCALING OF DRAWINGS SHALL NOT BE USED TO OBTAIN OR VERIFY ANY DIMENSION SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL VISIT THE SITE TO DETERMINE ANY DIMENSION NOT GIVEN ON DRAWINGS.
8. REFER TO PAVING AND GRADING SHEETS FOR TOP OF CONCRETE ELEVATIONS. COMPLY WITH REQUIRE SLOPING AS STATED IN PRAVING AND GRADING SHEETS.

REINFORCING STEEL

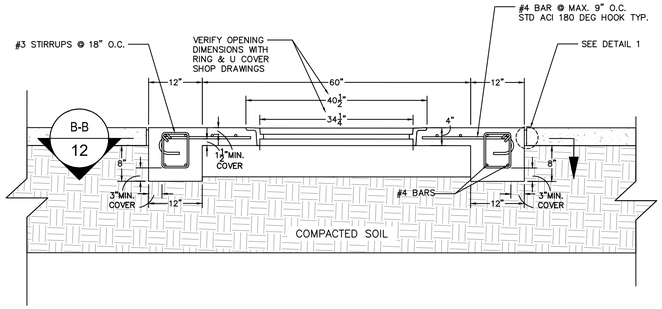
1. REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM A615 WITH SUPPLEMENT, GRADE 60; MAXIMUM WORKING STRESS OF 24,000 PSI.
2. TOLERANCES FOR REINFORCING BAR FABRICATION SHALL CONFORM TO THE CURRENT CRSI MANUAL OF STANDARD PRACTICE.
3. DEFORMED BARS SHALL BE FREE FROM LOOSE RUST, SCALE, OR OTHER COATINGS.
4. ALL REINFORCING STEEL SHALL BE ACCURATELY PLACED, RIGIDLY SUPPORTED AND FIRMLY TIED IN PLACE WITH BAR SUPPORTS AND SPACERS. VERIFY THAT PLACEMENT OF REINFORCING STEEL WILL NOT CONFLICT WITH SUBSEQUENT INSTALLATION OF ANCHOR BOLTS, FASTENERS, OR FIELD-DRILLED COMPONENTS.
5. UNLESS OTHERWISE NOTED, LAP BOTTOM STEEL OVER STRUCTURAL SUPPORTS AND TOP STEEL AT MIDSPAN.
6. ALL LAP LENGTHS SHALL BE IN ACCORDANCE WITH ACI 318, ACI 530, AND CRSI STANDARD PRACTICES, U.O.N.
7. ACI STANDARD HOOKS SHALL BE USED AS A MINIMUM, U.O.N.
8. ALL DIMENSIONS PERTAINING TO LOCATION OF REINFORCING BARS ARE TO CENTERLINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO FACE OF CONCRETE.

REINFORCED CONCRETE

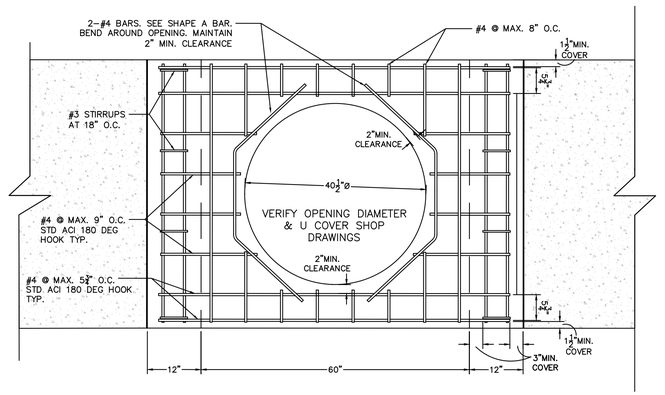
1. ALL CONCRETE MATERIALS, PLACING, AND HANDLING SHALL BE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE PUBLICATIONS ACI 301 AND ACI 318.
2. PROTECT CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT TEMPERATURES, AND MECHANICAL INJURY IMMEDIATELY AFTER PLACEMENT ACCORDING TO THE REQUIREMENTS OF ACI 301.
3. VERIFY SUBGRADE IS LEVEL AND COMPACTION TESTS HAVE BEEN PERFORMED AND ARE ACCEPTED PRIOR TO PLACEMENT OF THE SLAB.
4. CONCRETE MIX DESIGN REQUIREMENTS:
   3,000 PSI = F'C (28-DAY COMPRESSIVE STRENGTH)
   NORMAL WEIGHT CONCRETE = 150 PCF
   MAX W/C RATIO = 0.45
   MAX AGGREGATE SIZE = 3/4" CLASS 5S
5. DO NOT USE CALCIUM CHLORIDE IN ANY CONCRETE.
6. WATER SHALL NOT BE ADDED TO CONCRETE AT THE JOBSITE UNLESS SPECIFIC AUTHORIZATION IS INDICATED ON THE DELIVERY TICKET. NOTIFY ENGINEER OF TOTAL QUANTITY OF WATER ADDED TO ANY TRUCK. REPEAT NECESSARY TESTING IF WATER IS ADDED AFTER INITIAL SAMPLING.
7. ALL CONCRETE SHALL BE VIBRATED IN PLACE IN ACCORDANCE WITH ACI RECOMMENDED PRACTICES.
8. THE MINIMUM CONCRETE COVER PROVIDED FOR REINFORCEMENT SHALL BE 1.5 INCHES UNLESS OTHERWISE SPECIFIED.
9. PROVIDE A 5 INCH SLUMP WITH A TOLERANCE OF +/- 1 INCH.
10. WHERE A NON-SLIP FINISH IS REQUIRED, GIVE THE SURFACE A BROOM FINISH OR DRY-SHAKE APPLICATION OF FINELY CRUSHED ABRASIVE PARTICLES.



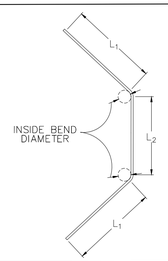
ENLARGED SIDEWALK SPAN
N.T.S.

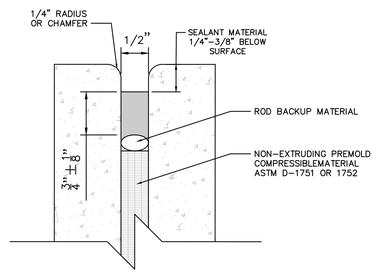


SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

SHAPE TYPE	SHAPE SIZE	BAR SIZE	L_1	L_2	L_3	INSIDE BEND DIAMETER
A		#4	20"	18"	–	3"



DETAIL 1
N.T.S.

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TEL: (561) 840-0873
FAX:

DRAWN BY: ARP | DATE: MAY 2025
DESIGNED BY: ARP | SCALE: AS NOTED
CHECKED BY: JG | FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

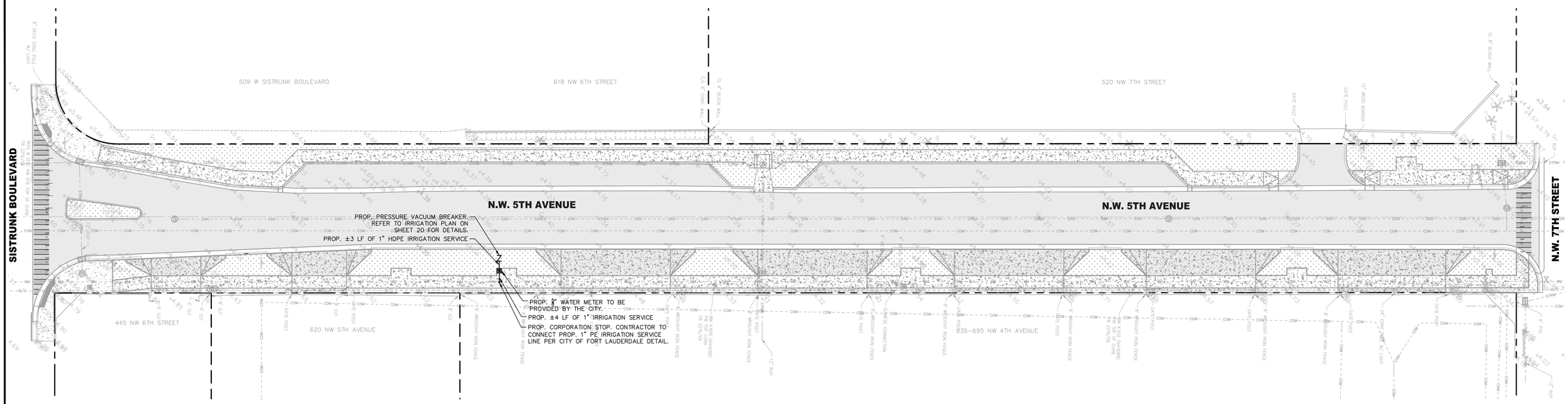
PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
STRUCTURAL DETAILS

SHEET NO. 13 OF 28

CAD FILE: 13 - STRUCTURAL DETAILS

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:12 STRUCTURAL DETAILS July 30, 2025 10:44:14am K:\fll_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\12 STRUCTURAL DETAILS.dwg
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LEGEND	
	PROPERTY LINE
	LOT LINE
SAN	EXISTING SANITARY SEWER
WM	EXISTING WATER MAIN
STRM	EXISTING STORM SEWER
COMM	EXISTING COMMUNICATION LINE
O/W	EXISTING OVERHEAD WIRE
X	EXISTING FENCE
	EXISTING CATCH BASIN
	EXISTING FIRE HYDRANT
W	EXISTING WATER METER
	EXISTING WATER VALVE
	PROPOSED SWALE
	PROPOSED CONCRETE SIDEWALK
	PROPOSED DETECTABLE WARNING
	PROPOSED LANDSCAPING
	MILLING AND RESURFACING
	PROPOSED CONCRETE DRIVEWAY

0 20' 40'

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ENGINEER: CARLOS FLORIAN, P.E.
REG. No: 80500
DATE: 7/30/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
WATER PLAN

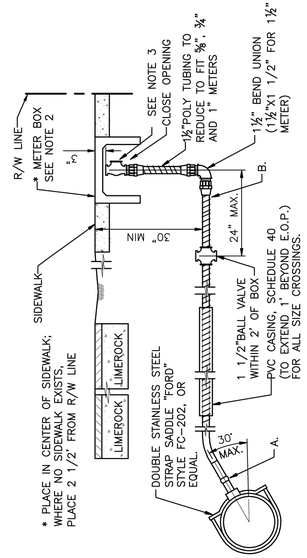
SHEET NO. 14 OF 28

CAD FILE: 8 - PAVING AND GRADING PLAN
DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:13 WATER PLAN July 30, 2025 10:44:33am K:\fl_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\13 WATER PLANS.dwg
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Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:13 WATER DETAILS July 30, 2025 10:44:36am K:\fll_civil\043 Jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\13 WATER PLANS.dwg
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CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER



DATE: FEB.'09	SCALE: N.T.S.	TYPICAL WATER SERVICE INSTALLATION	W 300 1 OF 2
REVISED: MARCH '09	DRAWN BY: R.C.		

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CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

A. CORPORATION STOP, BRASS AWWA I.P. THREAD AT INLET AND CONDUCTIVE COMPRESSION CONNECTION, FOR CTS O.D. TUBING "MUELLER" B-25028, INCLUDING THE STAINLESS STEEL LINER, "MUELLER" 506141 (FOR 2-INCH), 506139 (FOR 1 -INCH), 504385 (FOR 1-INCH), OR APPROVED EQUAL.

B. POLYETHYLENE WATER SERVICE PIPE (3408 ASTM 2737 SDR9) WITH #12 GAUGE COATED COPPER WIRE SINGLE-STRAND WRAPPED AROUND POLYETHYLENE SERVICE.

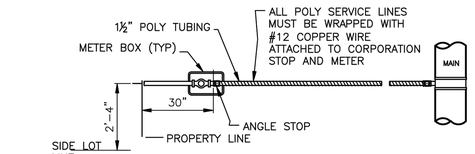
NOTE:

1. GROUND KEY ANGLE METER STOP,CONDUCTIVE COMPRESSION FOR CTS O.D. TUBING, X METER FLANGE 180° TURN CHECK-LOCK WING "MUELLER" H-14277, FOR 2-INCH INCLUDING THE STAINLESS STEEL LINER, "MUELLER" 506141 (FOR 2-INCH) OR APPROVED EQUAL, AND MUELLER 110 COMPRESSION CONNECTION.
2. METER BOXES FOR 5/8, 3/4, 1, 1½ AND 2 INCH METERS SHALL BE THE OKIE DOKIE #890-40-260282 MEDIUM BOX AND 890-40-260257 MEDIUM LID OR EQUAL.
3. TIE-IN TO EXISTING ⅝, ¾, OR 1 INCH METER AND CONNECT ANGLE VALVE TO EXISTING METER WHERE APPLICABLE.
4. ALL POLY SERVICE LINES SHOULD BE WRAPPED WITH #12 WIRE STRIPPED AND GROUNDED TO EACH FITTING. A CONDUCTIVITY TEST SHOULD BE PERFORMED.
5. ALL PVC WATER MAINS SHOULD BE WRAPPED WITH #6 WIRE STRIPPED AND GROUNDED TO EACH FITTING. A CONDUCTIVITY TEST SHOULD BE PERFORMED.

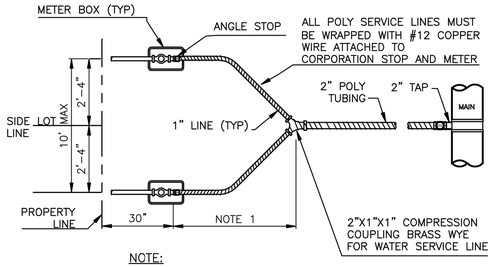
DATE: FEB.'09	SCALE: N.T.S.	TYPICAL WATER SERVICE INSTALLATION	W 300 2 OF 2
REVISED: MARCH '09	DRAWN BY: R.C.		

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SINGLE NEW SERVICE PLAN



NOTE:

1. KEEP 1½" WYE AS CLOSE AS POSSIBLE TO METER BOX.

DOUBLE NEW SERVICE PLAN

DATE: FEB'06	SCALE: N.T.S.	TYPICAL WATER SERVICE	W 301
REVISED: MARCH '09	DRAWN BY: R.C.		

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ENGINEER: CARLOS FLORIAN, P.E.
REG. No: 80500
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NW 5TH AVE STREETSCAPE IMPROVEMENTS
WATER DETAILS

SHEET NO. 15 OF 28

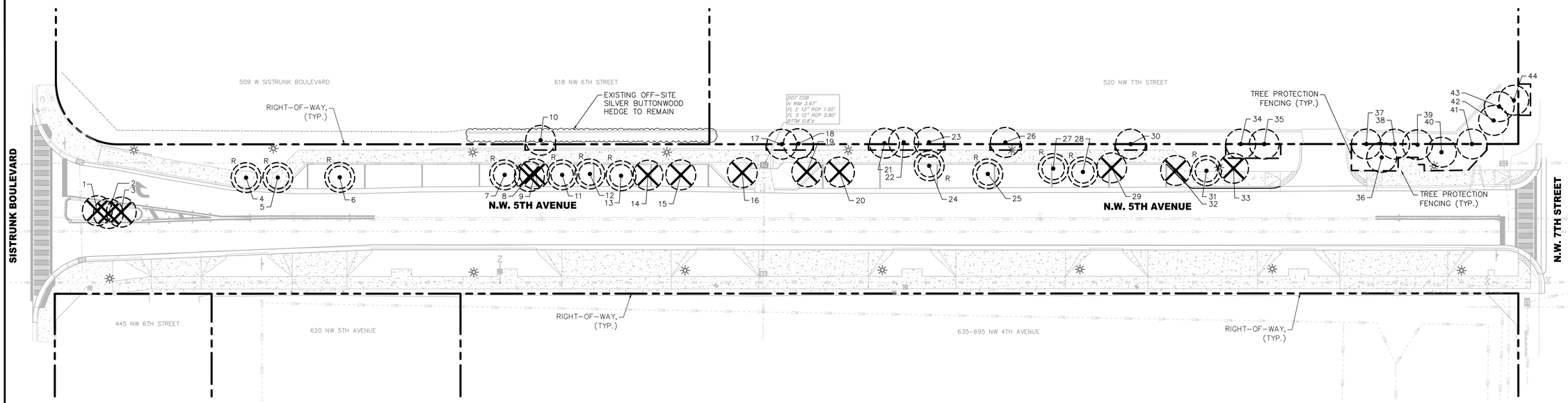
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PREPARED BY:
Kimley»Horn
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TREE DISPOSITION LIST

KHA TREE NO.	COMMON NAME	BOTANICAL NAME	DBH (In.)	HEIGHT(Ft.)	DISPOSITION
1	Areca Palm	*Dypsis lutenscens*	4"	15' CT	Remove
2	Areca Palm	*Dypsis lutenscens*	4"	12' CT	Remove
3	Areca Palm	*Dypsis lutenscens*	4"	15' CT	Remove
4	Sabal Palm	*Sabal palmetto*	12"	10' CT	Relocate
5	Sabal Palm	*Sabal palmetto*	10"	7' CT	Relocate
6	Sabal Palm	*Sabal palmetto*	10"	7' CT	Relocate
7	Sabal Palm	*Sabal palmetto*	10"	7' CT	Relocate
8	Brazilian Beauty Leaf	*Calophyllum brasiliense*	10"	7' CT	Remove
9	Crape Myrtle	*Lagersroemia indica*	10"	7' CT	Remove
10	Sabal Palm	*Sabal palmetto*	10"	15' CT	Off-Site
11	Sabal Palm	*Sabal palmetto*	10"	7' CT	Relocate
12	Sabal Palm	*Sabal palmetto*	10"	7' CT	Relocate
13	Sabal Palm	*Sabal palmetto*	10"	10' CT	Relocate
14	Crape Myrtle	*Lagersroemia indica*	6" (MULTI)	4' OA	Remove
15	Sabal Palm	*Sabal palmetto*	10"	7' CT	Remove
16	Sabal Palm	*Sabal palmetto*	10"	5' CT	Remove
17	Sabal Palm	*Sabal palmetto*	10"	15' CT	Off-Site
18	Sabal Palm	*Sabal palmetto*	12"	17' CT	Off-Site
19	Sabal Palm (Poor)	*Sabal palmetto*	8"	10' CT	Remove
20	Sabal Palm	*Sabal palmetto*	10"	6' CT	Remove
21	Sabal Palm	*Sabal palmetto*	10"	15' CT	Off-Site
22	Sabal Palm	*Sabal palmetto*	10"	15' CT	Off-Site
23	Sabal Palm	*Sabal palmetto*	10"	15' CT	Off-Site
24	Sabal Palm	*Sabal palmetto*	10"	12' CT	Relocate
25	Sabal Palm	*Sabal palmetto*	10"	10' CT	Relocate
26	Sabal Palm	*Sabal palmetto*	10"	15' CT	Off-Site
27	Sabal Palm	*Sabal palmetto*	10"	7' CT	Relocate
28	Sabal Palm	*Sabal palmetto*	10"	7' CT	Relocate
29	Crape Myrtle	*Lagersroemia indica*	6" (MULTI)	6' OA	Remove
30	Sabal Palm	*Sabal palmetto*	10"	12' CT	Off-Site
31	Sabal Palm	*Sabal palmetto*	10"	10' CT	Relocate
32	Sabal Palm	*Sabal palmetto*	10"	6' CT	Remove
33	Sabal Palm	*Sabal palmetto*	10"	6' CT	Remove
34	Sabal Palm	*Sabal palmetto*	10"	12' CT	Off-Site
35	Sabal Palm	*Sabal palmetto*	10"	12' CT	Off-Site
36	Sabal Palm	*Sabal palmetto*	10"	6' CT	Remain
37	Sabal Palm	*Sabal palmetto*	10"	12' CT	Off-Site
38	Sabal Palm	*Sabal palmetto*	10"	12' CT	Off-Site
39	Sabal Palm	*Sabal palmetto*	10"	10' CT	Off-Site
40	Sabal Palm	*Sabal palmetto*	10"	10' CT	Remain
41	Sabal Palm	*Sabal palmetto*	10"	12' CT	Off-Site
42	Sabal Palm	*Sabal palmetto*	10"	12' CT	Off-Site
43	Sabal Palm	*Sabal palmetto*	10"	10' CT	Off-Site
44	Sabal Palm	*Sabal palmetto*	10"	10' CT	Off-Site

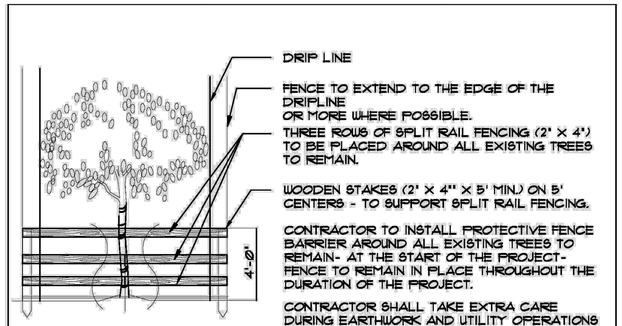
ROOT PRUNING

1. THE LANDSCAPE ARCHITECT HAS OBSERVED TREES THAT COULD BE IMPACTED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS.
2. IF CONSTRUCTION ACTIVITIES OCCUR WITHIN THE DRIPLINE (OR THE HORIZONTAL EXTENT OF THE CANOPY) OF A TREE, THEN THAT TREE IS A CANDIDATE FOR ROOT PRUNING.
3. ROOT PRUNING MUST OCCUR PRIOR TO TRENCHING OPERATIONS TO INSURE THAT THE ROOTS ARE CUT CLEAN AND AT PROPER ANGLES AND NOT MECHANICALLY RIPPED FROM THE EARTH DURING CONSTRUCTION.
4. FOR TREES REQUIRING ROOT PRUNING, A TREE ASSESSMENT SHALL BE CONDUCTED AND A ROOT-PRUNING PLAN SHALL BE DEVELOPED BY A CERTIFIED ARBORIST OR CONSULTING ARBORIST. THIS PLAN SHOULD IDENTIFY:
   - MAXIMUM ALLOWABLE SIZE OF ROOTS TO BE CUT
   - ALLOWABLE PROXIMITY TO THE TRUNK FOR CUTS
   - TIME OF YEAR WHEN ROOT CUTTING IS ALLOWABLE (NOTE: IN FLORIDA, IT IS BEST TO AVOID ROOT PRUNING DURING TIMES OF THE MAY THROUGH SEPTEMBER, WHEN THE POTENTIAL FOR DAMAGING WIND LOADS ON TREES ARE GREATEST.)
   - METHOD FOR MAKING CUTS
   - MITIGATING CANOPY PRUNING
   - TYPE AND EXTENT OF NECESSARY STRUCTURAL SUPPORT
   - SCHEDULE FOR WATERING/FERTILIZATION AFTER PRUNING
5. IMPLEMENT THE ROOT PRUNING PLAN PER THE ARBORIST'S RECOMMENDATION.

DEPARTMENT OF SUSTAINABLE DEVELOPMENT – UD&P

TREE PROTECTION DETAIL

Rev: 1 | Revision Date: 4/10/2018 | I.D. Number: TPD



TREE PROTECTION DETAIL

N.T.S.

TREE DISPOSITION SUMMARY	
TOTAL TREES TO REMAIN	0
TOTAL PALMS TO REMAIN	2
TOTAL TREES TO BE REMOVED	4
TOTAL PALMS TO BE REMOVED	9
TOTAL TREES TO BE RELOCATED	0
TOTAL PALMS TO BE RELOCATED	12
TOTAL PALMS OFF-SITE TO REMAIN	17

EXISTING TREE AND PALM PRUNING NOTES:

1. TREE/PALM PRUNING WORK MUST BE PERFORMED BY OR DIRECTLY SUPERVISED BY AN ISA CERTIFIED ARBORIST.
2. CONTRACTOR SHALL HOLD A PRE-PRUNING CONFERENCE WITH THE OWNER AND LANDSCAPE ARCHITECT PRIOR TO COMMENCING PRUNING OPERATIONS.
3. PRUNE TREES PER ANSI A300 FOR THE FOLLOWING:
   - 3.1. MAINTENANCE – TO MAINTAIN OR IMPROVE THE TREE'S HEALTH AND STRUCTURE
   - 3.2. HAZARD REDUCTION – TO REMOVE DEAD LIMBS OR OTHER VISIBLE HAZARDS FROM THE TREE CANOPY
   - 3.3. CROWN CLEANING – TO SELECTIVELY REMOVE DEAD, DYING OR DISEASED BRANCHES, WEAK BRANCHES, AND SUCKER SPROUTS.
   - 3.4. CROWN RAISING – TO REMOVE LOWER BRANCHES TO PROVIDE VERTICAL CLEARANCE
   - 3.5. VISTA PRUNING – TO SELECTIVELY THIN FRAMEWORK LIMBS WITHIN THE CROWN TO ALLOW FOR VIEWS THROUGH THE TREE
   - 3.6. CROWN RESTORATION – TO IMPROVE THE STRUCTURE, FORM, AND APPEARANCE OF A TREE THAT HAS BEEN DAMAGED, HEADED, OR VANDALIZED
4. CONTRACTOR MUST HOLD A CLASS A OR B TREE TRIMMER LICENSE FROM BROWARD COUNTY TO PERFORM THE WORK.

KEY:

- TREE TO REMAIN
- TREE TO BE REMOVED
- TREE TO BE RELOCATED
- TREE TO BE PROTECTED PER DETAIL ON THIS SHEET

0 20' 40'

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PREPARED BY:

Kimley»Horn

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REG. No: 66712
DATE: 05/16/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
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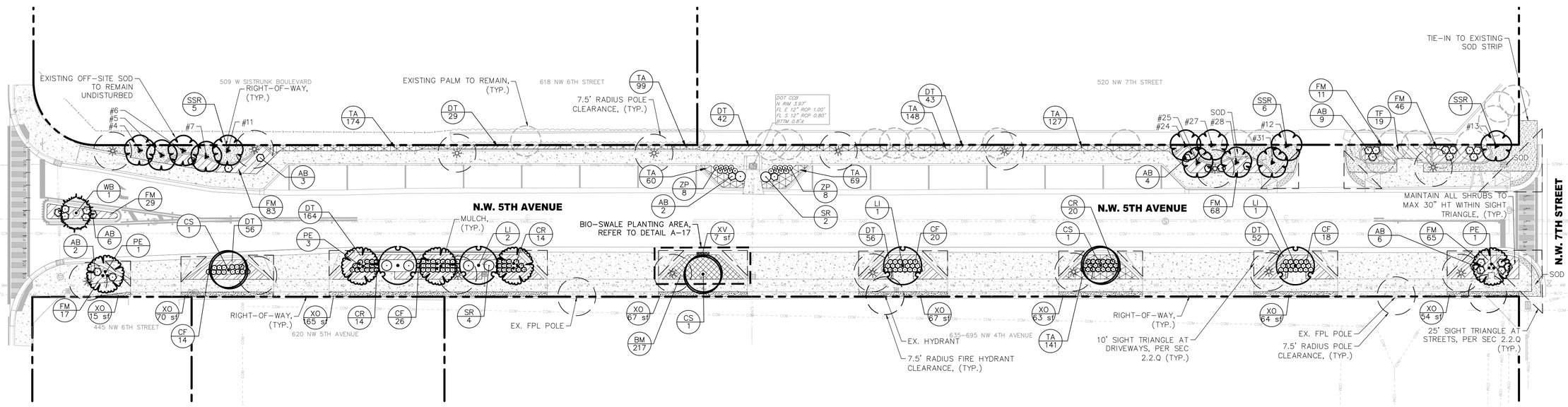
PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
TREE DISPOSITION PLAN

SHEET NO. 16 OF 28

CAD FILE: 16 – TREE DISPOSITION PLAN

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:15 TREE DISPOSITION PLAN July 30, 2025 10:45:05am K:\Ft_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plotsheets\15 TREE DISPOSITION PLAN.dwg
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PLANTING NOTES:

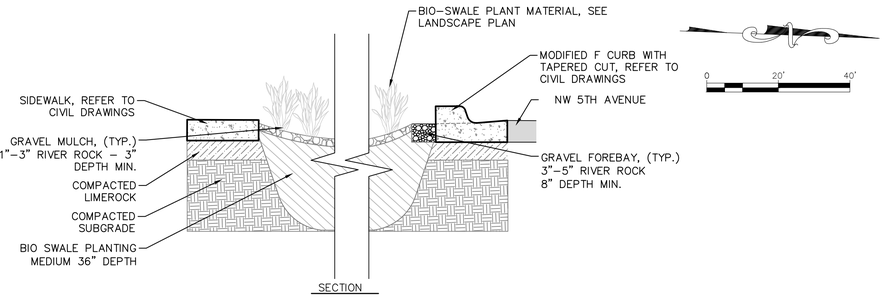
1. CONTRACTOR SHALL REFER TO THE LANDSCAPE PLANTING DETAILS, PLANT LIST, GENERAL NOTES AND ALL CONTRACT DOCUMENTS FOR FURTHER AND COMPLETE INSTRUCTIONS.
2. PLANT LIST QUANTITIES ARE PROVIDED FOR CONVENIENCE. IN THE EVENT OF QUANTITY DISCREPANCIES THE DRAWING SHALL TAKE PRECEDENCE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BIDDING.
3. PLANT SIZES LISTED ARE THE MINIMUM SIZE THAT WILL BE ACCEPTED FOR THAT PLANT.
4. ANY SUBSTITUTION IN SIZE AND/OR PLANT MATERIAL MUST BE APPROVED BY THE LANDSCAPE ARCHITECT IN WRITING. ALL PLANTS WILL BE SUBJECT TO APPROVAL BY LANDSCAPE ARCHITECT AND/OR OWNERS REPRESENTATIVE BEFORE PLANTING CAN BEGIN.
5. CONTRACTOR SHALL FIELD ADJUST LOCATION OF PLANT MATERIAL AS NECESSARY TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES AND/OR INTERFERE WITH EXISTING ABOVE GROUND ELEMENTS. ALL CHANGES REQUIRED SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.
6. THE CONTRACTOR SHALL BEAR ALL COSTS OF TESTING OF SOILS, AMENDMENTS, ETC. ASSOCIATED WITH THE WORK AND INCLUDED IN THE SPECIFICATIONS.
7. CONTRACTOR SHALL FAMILIARIZE HIM/HERSELF WITH THE LIMITS OF WORK AND EXISTING CONDITIONS AND VERIFY ALL INFORMATION. IF DISCREPANCIES EXIST, CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IN WRITING WITHIN SEVEN CALENDAR DAYS OF NOTICE TO PROCEED.
8. ALL NEW AND TRANSPLANTED PLANT MATERIAL SHALL BE IRRIGATED BY AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.

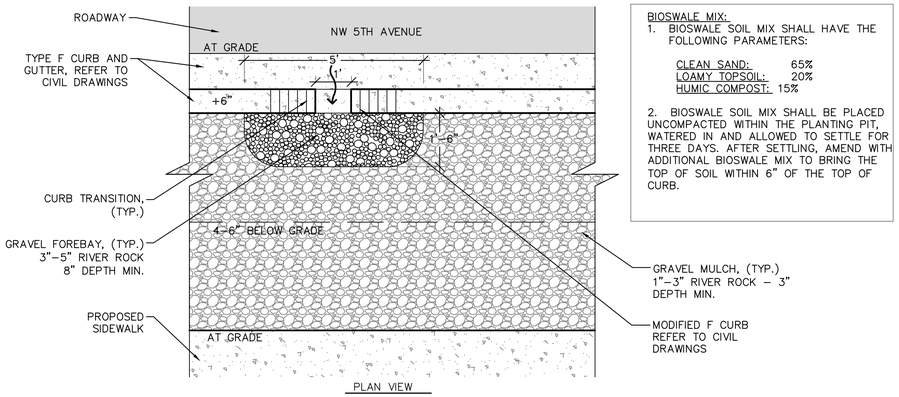
PLANT SCHEDULE

CODE	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	QTY
TREES						
CS	Conocarpus erectus f. sericeus	Silver Buttonwood	Cont.	2" Cal.	12'-14' HT	3
LI	Lagerstroemia fauriei 'Muskogee' SINGLE TRUNK	Muskogee Crape Myrtle	Cont.	2.5" Cal.	14' HT X 6' SPR	4
PALM TREES						
PE	Ptychosperma elegans TRIPLE TRUNK	Solitaire Palm	F.G.		14'-16' OA	5
SSR	Sabal palmetto RELOCATED	Relocated Sabal Palm	Relocated			12
WB	Wodyetia bifurcata	Foxtail Palm	F.G.		16' OA	1
CODE	**BOTANICAL NAME**	**COMMON NAME**	**CONT**	**O.C.**	**SIZE**	**QTY**
SHRUBS						
AB	Aechmea blanchetiana	Orange Bromeliad	Cont.	As Shown	4' HT	33
CF	Cordyline fruticosa 'Auntie Lou'	Auntie Lou Ti Plant	Cont.	24" O.C.	3-4' HT	78
CR	Chrysobalanus icaco 'Horizontalis'	Horizontal Coco Plum	Cont.	24" O.C.	18"x18"	48
SR	Strelitzia reginae 5 PPP MIN.	Bird Of Paradise	15 gal	48" O.C.	4' HT	6
ZP	Zamia pumila	Coontie	Cont.	24" O.C.	18" HT x 18" SPR	16
SHRUB AREAS						
TF	Tripsacum floridana	Dwarf Fakahatchee Grass	Cont.	30" O.C.	24" HT	19
GROUND COVERS						
BM	Bioswale Mix Equal Quantities of Each	Bioswale Planting Mix	1 gal	12" O.C.		217
DT	Dianella tasmanica 'Variegata'	Flax Lily Variegated	Cont.	18" O.C.	12"x12"	442
FM	Ficus microcarpa 'Green Island'	Green Island Ficus	Cont.	18" O.C.	15"x15"	319
SOD	Stenotaphrum secundatum 'Floratum'	Floratum St. Augustine Grass	Sod			±1,083 sf
TA	Trachelospermum asiaticum "Summer Sunset"	SUmmer Sunset Asiatic Jasmine	Cont.	12" O.C.	8" HT	818
XO	Gravel Mulch 1"-3" RIVER ROCK - 3" DEPTH	Gravel Mulch	Stone			±565 sf
XV	Gravel Forebay 3"-5" RIVER ROCK - 8" DEPTH	Gravel Forebay	Stone			±7 sf

BIOSWALE PLANTING MIX

SYMBOL	BOTANICAL NAME	COMMON NAME	QTY	NATIVE	DROUGHT TOL.
	Coreopsis leavenworthii	Common Tickseed	72 (33%)	YES	YES
	Sisyrinchium angustifolium	Blue-Eyed Grass	72 (33%)	YES	YES
	Muchlenbergia capillaris	Pink Muhly Grass	73 (33%)	YES	YES





BIOSWALE MIX:
1. BIOSWALE SOIL MIX SHALL HAVE THE FOLLOWING PARAMETERS:
   - CLEAN SAND: 65%
   - LOAMY TOPSOIL: 20%
   - HUMIC COMPOST: 15%
2. BIOSWALE SOIL MIX SHALL BE PLACED UNCOMPACTED WITHIN THE PLANTING PIT, WATERED IN AND ALLOWED TO SETTLE FOR THREE DAYS. AFTER SETTLING, AMEND WITH ADDITIONAL BIOSWALE MIX TO BRING THE TOP OF SOIL WITHIN 6" OF THE TOP OF CURB.

(A) BIO-SWALE PLANTING AREA

NTS

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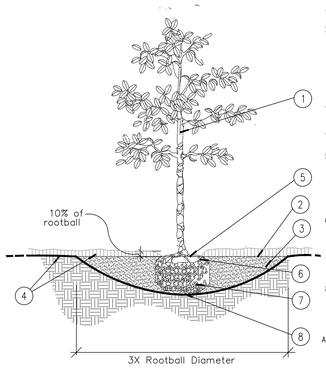
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LANDSCAPE PLAN

SHEET NO. 17 | OF 28

CAD FILE: 17 - LANDSCAPE PLAN

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:17 - LANDSCAPE PLAN July 30, 2025 10:45:49am K:\Ft_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\16 LANDSCAPE PLAN.dwg
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1. TRUNK
2. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW/ WIDE PLANT HOLE; TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE – LANDSCAPE SOIL
5. FIND TOP-MOST ROOT ON ROOTBALL; POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
6. B & B OR CONTAINER (SEE SPECIFICATIONS FOR ROOT BALL REQUIREMENTS).
7. REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL.
8. ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.

NOTES:

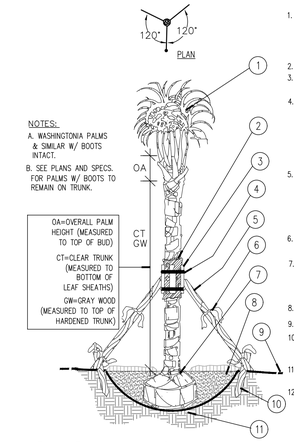
A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING PITS PRIOR TO INSTALLATION.

B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

C. SEE PRE-APPROVED STAKING METHODS, THIS SHEET

* ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

A Tree Planting
SECTION NTS



NOTES:

A. WASHINGTONIA PALMS & SIMILAR W/ BOOTS INTACT.

B. SEE PLANS AND SPECS. FOR PALMS W/ BOOTS TO REMAIN ON TRUNK.

OA=OVERALL PALM HEIGHT (MEASURED TO TOP OF BUD)

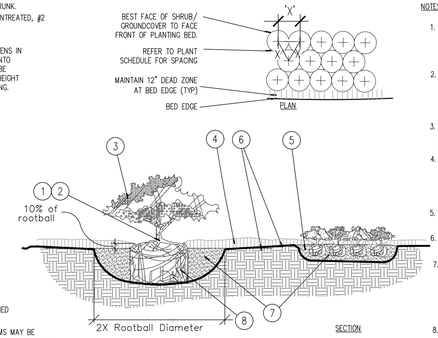
CT=CLEAR TRUNK (MEASURED TO BOTTOM OF LEAF SHEATHS)

GW=GRAY WOOD (MEASURED TO TOP OF HARDENED TRUNK)

1. MINIMUM OF NINE (9) GOOD PALM FRONDS; PRUNE AND TIE FRONDS WITH HEMP TWINE. SABAL PALMS TO BE SELECTIVELY "HURRICANE CUT", LEAVING ONLY NEWLY- EMERGING GROWTH.
2. 5 LAYERS OF BURLAP TO PROTECT TRUNK.
3. FIVE (5) 18"L, 2X4 WOOD BATTENS. UNTREATED, #2
4. SECURE BATTENS WITH TWO (2) 3/4" CARBON STEEL BANDS TO HOLD BATTENS IN PLACE. NO NAILS SHALL BE DRIVEN INTO PALM. HEIGHT OF BATTENS SHALL BE LOCATED PROPORTIONATELY TO THE HEIGHT OF THE PALM FOR ADEQUATE BRACING.
5. THREE (3) 8'L 2X4 SUPPORTS. NAIL (DRILL AND NAIL IF NECESSARY) TO BATTENS AND 2" X 4" STAKES. PALMS SHALL BE PLUMB VERTICALLY UNLESS OTHERWISE NOTED.
6. PROVIDE FLAGGING AT MIDPOINT AND BASE OF SUPPORTS.
7. TOP-MOST ROOT SHALL BE VISIBLE AT THE SURFACE OF THE ROOTBALL, SLIGHTLY ABOVE SURROUNDING GRADE.
8. 3" SPECIFIED MULCH
9. FINISH GRADE
10. 24"L (MIN.) 2X4 P.T. WOOD STAKES, NAIL TO SUPPORT POLES
11. PREPARED PLANTING SOIL AS SPECIFIED
12. ALTERNATE PALM ANCHORING SYSTEMS MAY BE SUBSTITUTED UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE

PRE-APPROVED SYSTEMS:
*BROOKS TREE BRACE SYSTEM
*ARBOR TIE TREE BRACING

B Palm Planting and Staking
SECTION NTS

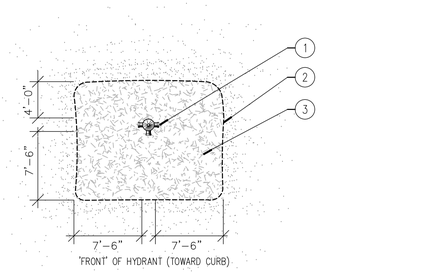


NOTES:

1. FIND POINT WHERE TOPMOST ROOT EMERGES FROM TRUNK WITHIN 2" OF SURFACE. CLEAR EXCESS SOIL IF NECESSARY.
2. TOP 10% OF SHRUB AND GROUNDCOVER ROOTBALLS TO BE PLANTED ABOVE THE LANDSCAPE GRADE. DO NOT COVER EXPOSED 10% ON SIDES WITH SOIL.
3. PRUNE ALL LIKE SHRUBS WITHIN A PLANTED MASS TO ACHIEVE A UNIFORM MASS/HEIGHT.
4. 3" MINIMUM MULCH AS SPECIFIED – DO NOT COVER ENTIRE SHRUB ROOTBALL OR CREATE 'WATER RINGS' ONLY COVER SIDES OF ROOTBALL WITH MULCH
5. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
6. FINISHED GRADE (SEE GRADING PLAN).
7. PREPARED PLANTING SOIL AS SPECIFIED. NOTE: WHEN GROUND- COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
8. SCARIFY ROOTBALL SIDES AND BOTTOM.

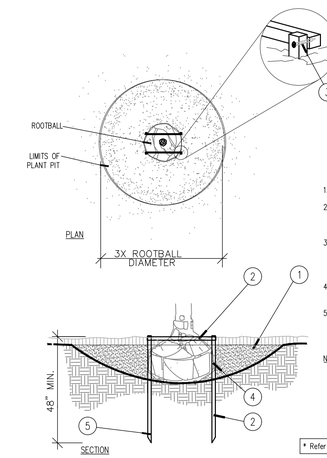
* ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

C Shrub / Groundcover Planting
PLAN/SECTION NTS



1. FIRE HYDRANT
2. NO PLANT MATERIAL SHALL BE PLACED WITHIN SHOWN RADIUS OF ALL PROPOSED OR EXISTING FIRE HYDRANTS. CONTRACTOR SHALL ADJUST PLANT MATERIAL SO THAT NO CONFLICTS WITH FIRE HYDRANTS OCCUR ON SITE.
3. PROVIDE A MULCH, 3" DEPTH MIN., SURROUNDING AREA INDICATED.

D Fire Hydrant Clear Zone
PLAN NTS



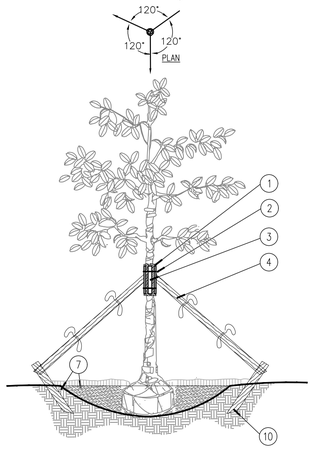
1. FINISH GRADE
2. HORIZONTAL 2X2 SCREWED TO 2X2 STAKE. ALL WOOD SHALL BE #2 UNTREATED.
3. 3-1/2" DRYWALL SCREW, THREAD SIZE 12, SHARP POINT, FULL THREAD, BLACK PHOSPHATE FINISH
4. VERTICAL STAKES SHALL ABUT SIDE OF ROOTBALL
5. STAKES TO EXTEND INTO NATIVE SOIL BY 1-1/2 X THE ROOTBALL DEPTH MIN.

NOTE:

IF SPATIAL REQUIREMENTS PRECLUDE STAKING WITH THIS METHOD, SUBMIT ALTERNATE FOR LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO INSTALLING PLANT.

* Refer to details B and D for planting

E Staking – up to 65 gal. or B&B to 3-1/2" Cal.
PLAN/SECTION NTS



1. FIVE (5) LAYERS OF BURLAP TO PROTECT TRUNK
2. TWO STEEL BANDS TO SECURE BATTENS
3. FIVE 2 X 4 X 18"L WOOD BATTENS
4. THREE (3) 2" X 8' LODGE POLES. DRILL, USING GALVANIZED SCREWS, TO BATTENS AND 2" X 4" STAKES. NO SCREWS SHALL PENETRATE TREE. FLAG AT MIDPOINT AND AT BASE.
10. 2" x 4" x 3' (MIN), P.T. WOOD STAKES BURIED 3" BELOW FINISHED GRADE.
7. FINISHED GRADE (SEE GRADING PLAN)

NOTES:

A. ALL TREES SHALL BE PLUMB VERTICALLY WITHIN A TOLERANCE OF THREE DEGREES, UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE.

B. FINAL TREE STAKING DETAILS AND PLACEMENT TO BE APPROVED BY OWNER.

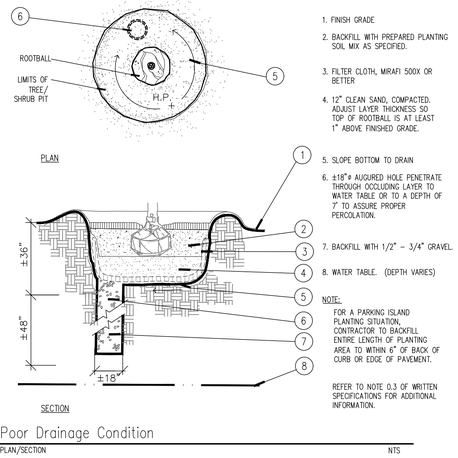
C. ALTERNATE TREE ANCHORING SYSTEMS MAY BE SUBSTITUTED FOR WOOD STAKING SYSTEM UPON APPROVAL BY OWNER OR OWNER'S REPRESENTATIVE

PRE-APPROVED SYSTEMS:
*BROOKS TREE BRACE SYSTEM
*ARBOR TIE TREE BRACING

D. RUBBER HOSE/WIRE SYSTEMS ARE NOT ALLOWED.

* Refer to details B and D for planting

F Large Tree Staking – 100 Gal + or B&B 4" +
SECTION NTS



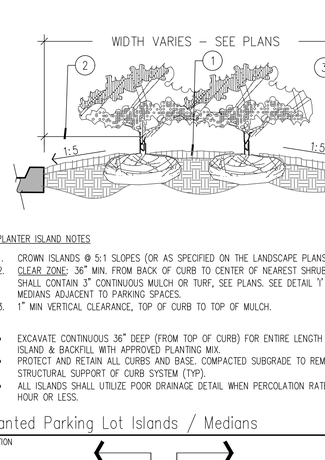
1. FINISH GRADE
2. BACKFILL WITH PREPARED PLANTING SOIL MIX AS SPECIFIED.
3. FILTER CLOTH, MIRAFI 500X OR BETTER
4. 12" CLEAN SAND, COMPACTED. ADJUST LAYER THICKNESS SO TOP OF ROOTBALL IS AT LEAST 1" ABOVE FINISHED GRADE.
5. SLOPE BOTTOM TO DRAIN
6. ±18"ø AUGURED HOLE PENETRATE THROUGH OCCLUDING LAYER TO WATER TABLE OR TO A DEPTH OF 7' TO ASSURE PROPER PERCOLATION.
7. BACKFILL WITH 1/2" – 3/4" GRAVEL.
8. WATER TABLE. (DEPTH VARIES)

NOTE:

FOR A PARKING ISLAND PLANTING SITUATION, CONTRACTOR TO BACKFILL ENTIRE LENGTH OF PLANTING AREA TO WITHIN 6" OF BACK OF CURB OR EDGE OF PAVEMENT.

REFER TO NOTE 0.3 OF WRITTEN SPECIFICATIONS FOR ADDITIONAL INFORMATION.

G Poor Drainage Condition
PLAN/SECTION NTS

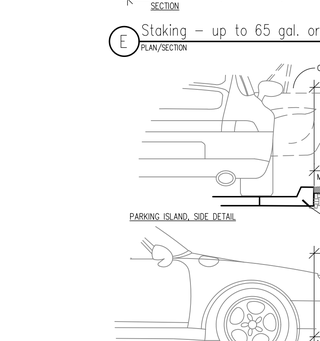


PLANTER ISLAND NOTES

1. CROWN ISLANDS @ 5:1 SLOPES (OR AS SPECIFIED ON THE LANDSCAPE PLANS).
2. CLEAR ZONE: 36" MIN. FROM BACK OF CURB TO CENTER OF NEAREST SHRUB. CLEAR ZONE SHALL CONTAIN 3" CONTINUOUS MULCH OR TURF, SEE PLANS. SEE DETAIL 'I' FOR PLANTER MEDIANS ADJACENT TO PARKING SPACES.
3. 1" MIN VERTICAL CLEARANCE, TOP OF CURB TO TOP OF MULCH.

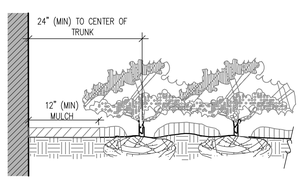
- EXCAVATE CONTINUOUS 36" DEEP (FROM TOP OF CURB) FOR ENTIRE LENGTH AND WIDTH OF ISLAND & BACKFILL WITH APPROVED PLANTING MIX.
- PROTECT AND RETAIN ALL CURBS AND BASE. COMPACTED SUBGRADE TO REMAIN FOR STRUCTURAL SUPPORT OF CURB SYSTEM (TYP).
- ALL ISLANDS SHALL UTILIZE POOR DRAINAGE DETAIL WHEN PERCOLATION RATES ARE 2" PER HOUR OR LESS.

H Planted Parking Lot Islands / Medians
SECTION NTS



1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP.
   NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE
2. CURB OR PARKING LOT EDGE, BY OTHERS

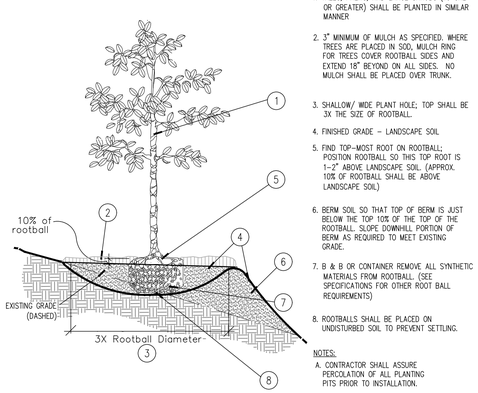
I Parking Space/Curb Planting
SECTION NTS



NOTES

* CLEAR ZONE: 24" MIN. FROM BUILDING TO CENTER OF NEAREST SHRUB.

J Plantings Adjacent to Buildings
SECTION NTS



1. TREES, PALMS, AND LARGE SHRUBS (15 GAL OR GREATER) SHALL BE PLANTED IN SIMILAR MANNER
2. 3" MINIMUM OF MULCH AS SPECIFIED. WHERE TREES ARE PLACED IN SOD, MULCH RING FOR TREES COVER ROOTBALL SIDES AND EXTEND 18" BEYOND ON ALL SIDES. NO MULCH SHALL BE PLACED OVER TRUNK.
3. SHALLOW/ WIDE PLANT HOLE; TOP SHALL BE 3X THE SIZE OF ROOTBALL.
4. FINISHED GRADE – LANDSCAPE SOIL
5. FIND TOP-MOST ROOT ON ROOTBALL; POSITION ROOTBALL SO THIS TOP ROOT IS 1-2" ABOVE LANDSCAPE SOIL. (APPROX. 10% OF ROOTBALL SHALL BE ABOVE LANDSCAPE SOIL)
6. BERM SOIL SO THAT TOP OF BERM IS JUST BELOW THE TOP 10% OF THE TOP OF THE ROOTBALL. SLOPE DOWNHILL PORTION OF BERM AS REQUIRED TO MEET EXISTING GRADE.
7. B & B OR CONTAINER REMOVE ALL SYNTHETIC MATERIALS FROM ROOTBALL. (SEE SPECIFICATIONS FOR OTHER ROOT BALL REQUIREMENTS)
8. ROOTBALLS SHALL BE PLACED ON UNDISTURBED SOIL TO PREVENT SETTLING.

NOTES:

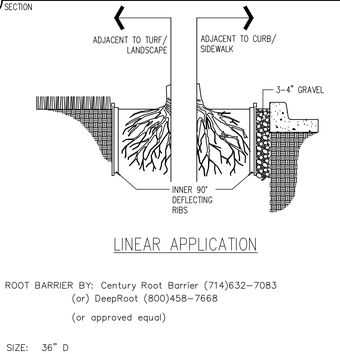
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C. SEE PRE-APPROVED STAKING METHODS, THIS SHEET

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K Planting on a Slope
SECTION NTS



LINEAR APPLICATION

ROOT BARRIER BY: Century Root Barrier (714)632-7083
(or) DeepRoot (800)458-7668

(or approved equal)

SIZE: 36" D
MATERIAL: POLYETHYLENE WITH ULTRAVIOLET INHIBITORS
THICKNESS: .085 IN. (min.)

NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. INSTALL AS REQUIRED, PER PLAN NOTES.
3. SUBMIT PRODUCT DATA FOR APPROVAL.

L Root Barrier
Barrier Detail NTS

811 Know what's below. Call before you dig.
811 or 1-800-432-4770
or visit
www.callsunshine.com

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

PREPARED BY:
Kimley»Horn

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8201 PETERS ROAD, SUITE 2200, PLANTATION, FL 33324
PHONE: 954-535-5100 FAX: 954-739-2247
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

ENGINEER: TOM HARGRETT, PLA
REG. No: 66751?
DATE: 05/16/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
LANDSCAPE DETAILS

SHEET NO. 18 OF 28

CAD FILE: 18 – LANDSCAPE DETAILS

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:18 – LANDSCAPE DETAILS July 30, 2025 10:45:49pm K:\ftl_civil\043 jobs\04318425 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\16 LANDSCAPE PLAN.dwg
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Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:19 - LANDSCAPE NOTES July 30, 2025 10:45:54am K:\fll_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\16 LANDSCAPE PLAN.dwg
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GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPILLING OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE HEAT WILL DAMAGE ANY PLANT. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPEN AND/ OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS ($100) PER CALIPER INCH ON AN ESCALATING SCALE WHICH ADDS AN ADDITIONAL TWENTY (20) PERCENT PER INCH OVER FOUR (4) INCHES CALIPER AS FIXED AND AGREED LIQUIDATED DAMAGES. CALIPER SHALL BE MEASURED SIX (6) INCHES ABOVE GROUND LEVEL FOR TREES UP TO AND INCLUDING FOUR (4) INCHES IN CALIPER AND TWELVE (12) INCHES ABOVE GROUND LEVEL FOR TREES OVER FOUR (4) INCHES IN CALIPER.

D. MATERIALS

1. GENERAL

MATERIALS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL. UPON SUBMITTALS' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SUBMITTAL
MULCH	PRODUCT DATA
TOPSOIL MIX	AMENDMENT MIX/ PRODUCT DATA/ TEST RESULTS
PLANTS	PHOTOGRAPHS OF ONE (1) OF EACH SPECIES (OR TAGGED IN NURSERY) CLIENT-REQUESTED TAGGING MAY SUBSTITUTE PHOTOS. INDICATE SIZES (HEIGHT/WIDTH) AND QUALITY PER SPEC.
FERTILIZER	PRODUCT DATA
INNOCULANT	PRODUCT DATA
HERBICIDE	PRODUCT DATA
STAKING/GUYING	FOR ALTERNATE TO DETAILS: SEND PRODUCT DATA, DETAIL

2. PLANT MATERIALS

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA GRADE NO. 1 OR BETTER AS DETERMINED BY THE FLORIDA DIVISION OF PLANT INDUSTRY. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER. WHERE ANY REQUIREMENTS ARE OMITTED FROM THE PLANT LIST, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY WITH APPROVAL FROM OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE OWNER'S REPRESENTATIVE

B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

C. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY; SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS, LATENT DEFECTS OR INJURIES. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

1. SOIL MIXTURE (PLANTING MEDIUM FOR PLANT PITS) SHALL CONSIST OF 20% CLEAN FLORIDA MUCK AND 80% PARTS CLEAN SAND. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND A PH BETWEEN 5.5 AND 7.0 – SUBMIT SAMPLE AND PH TESTING RESULTS FOR APPROVAL.

2. MUCK (OR MUCKY PEAT) FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, AND OF A VERY HIGH ORGANIC CONTENT DERIVED FROM FLORIDA SOURCES; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER; FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH.

3. SAND FOR USE IN PREPARING SOIL MIXTURE SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND. CONTRACTOR SHALL SUBMIT RESULTS OF SOIL TESTS FOR TOPSOIL AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL BY THE OWNER.

4. TREES SHALL BE PLANTED IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE – AT WHICH POINT THE CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.

5. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

F. WATER

WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC.. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

*WATERING/IRRIGATION RESTRICTIONS MAY APPLY – REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

*FERTILIZER RESTRICTIONS MAY APPLY – REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

H. MULCH

MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A MINIMUM DEPTH OF 3 INCHES. CLEAR MULCH FROM EACH PLANT'S CROWN (BASE). TYPE OF MATERIAL: "FLORIMULCH" OR SHREDDED, STERILE EUCALYPTUS MULCH

I. DIGGING AND HANDLING

1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT DAMAGE DURING TRANSIT. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SPRAYED WITH AN ANTITRANSPIRANT PRODUCT ("WILTPRUF" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.

2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS. NO PLANTS MOVED WITH A ROOT BALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN. PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.

3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS, COMPLYING WITH FLORIDA GRADES AND STANDARDS FOR NURSERY PLANTS, CURRENT EDITION. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT DURING TRANSPORTATION AND PRIOR TO PLANTING.

4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS SPECIFIED AFTER THE MINIMUM OF FRONDS HAVE BEEN REMOVED. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL.

5. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB- BASES.

J. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, FLORIDA #1 OR BETTER.

2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.

3. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.

4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL IS OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE

N. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-END LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES.

O. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER. ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE REMOVED FROM THE SURFACE OF ALL PLANT BEDS. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, HE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. FAILURE TO DO SO BEFORE PLANTING SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.

2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES, INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORMWATER SYSTEMS, CABLE, AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES. CALL NATIONAL ONE CALL – 811 – TO LOCATE UTILITIES.

3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36". CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK OR OTHER ADVERSE CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND ADEQUATE PERCOLATION CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE.

4. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANT MATERIALS BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

5. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. UPON ARRIVAL AT THE SITE , PLANTS SHALL BE THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS STORED ON-SITE SHALL NOT REMAIN UNPLANTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES, METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.

6. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE PLANTING WITH IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION APPURTENANCES AND PLANTS.

7. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD FOR NURSERY STOCK 260.1, UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL MIXTURE AS SPECIFIED IN SECTION E. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER PERCOLATION. IF POOR PERCOLATION EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FLUSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN. PROPER "JETTING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL IS RECOMMENDED.

8. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.

9. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.

10. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACKFILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).

11. AMEND PINE AND OAK PLANT PITS WITH ECTOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. ALL OTHER PLANT PITS SHALL BE AMENDED WITH ENDOMYCORRHIZAL SOIL APPLICATION PER MANUFACTURER'S RECOMMENDATION. PROVIDE PRODUCT INFORMATION SUBMITTAL PRIOR TO INOCULATION.

12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, STIRRING IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE, ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM THE SIDES AND TOPS OF BALLS, BUT NO BURLAP SHALL BE PULLED FROM UNDERNEATH.

13. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE, TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL SOFT WOOD OR SUCKER GROWTH AND ALL BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT. ALL PRUNING TO BE PERFORMED BY LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.

14. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST. CULTIVATE ALL PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE ALL DEBRIS. MIX TOP 4" TO ACHEIVE SOIL MIXTURE AS SPECIFIED IN SECTION E. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.

15. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. IF THE CONTRACTOR AND OWNER DECIDE TO WAIVE THE TREE GUYING AND BRACING, THE OWNER SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING AND AGREE TO INDEMNIFY AND HOLD HARMLESS THE LANDSCAPE ARCHITECT IN THE EVENT UNSUPPORTED TREES PLANTED UNDER THIS CONTRACT FALL AND DAMAGE PERSON OR PROPERTY.

16. MULCHING: PROVIDE A THREE INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.

17. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER, "ROUND-UP" SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER. (AS ALLOWED BY JURISDICTIONAL AUTHORITY)

P. LAWN SODDING

1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.

2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL SOIL, AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.

3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP. HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.

4. SODDING

A. THE CONTRACTOR SHALL SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

B. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A 24 INCH STONE MULCH STRIP SHALL BE PROVIDED – REFER TO DETAILS. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.

5. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

6. LAWN MAINTENANCE:

A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).

B. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. PRIOR TO AND UPON ACCEPTANCE, CONTRACTOR TO PROVIDE WATERING/IRRIGATION SCHEDULE TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

Q. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM-CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE. MAINTENANCE AFTER THE CERTIFICATION OF ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF 90 CALENDAR DAYS COMMENCING AFTER ACCEPTANCE.

S. MAINTENANCE (ALTERNATE BID ITEM)

CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST-PER-MONTH BASIS.

T. FINAL INSPECTION AND ACCEPTANCE OF WORK

FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

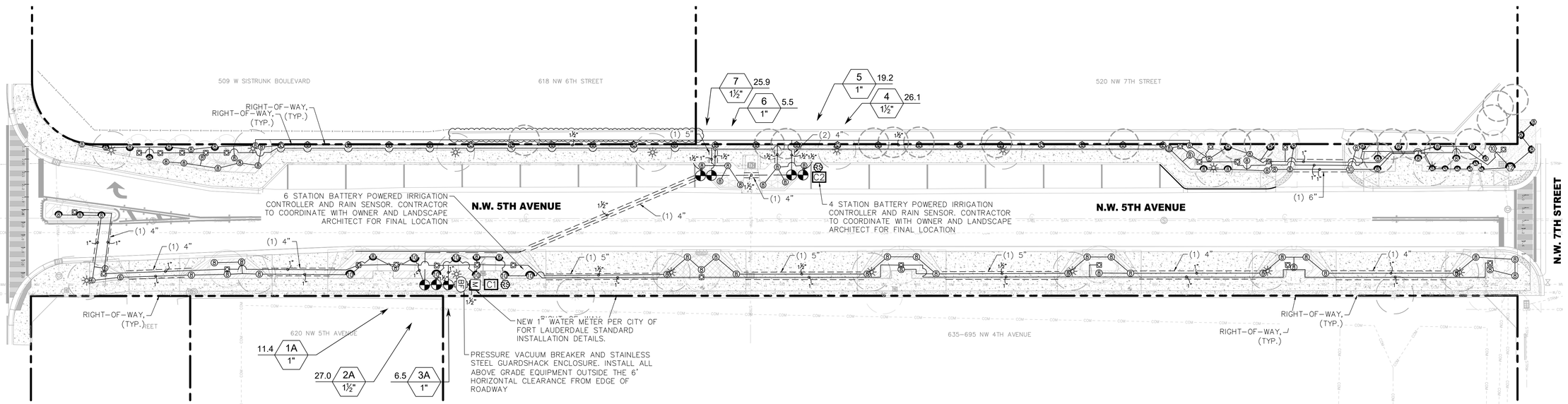
U. WARRANTY

1. THE LIFE AND SATISFACTORY CONDITION OF ALL 7 GALLON AND LARGER PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.

2. THE LIFE AND SATISFACTORY CONDITION OF ALL OTHER PLANT MATERIAL (INCLUDING SOD) INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.

3. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED PLANTED AND MULCHED AS SPECIFIED UNDER "PLANTING", AT NO ADDITIONAL COST TO THE OWNER.

4. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER, AND SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH. IT IS SUGGESTED SUCH SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS F



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
Q H F	Rain Bird 1806 5 Series MPR Turf Spray 6.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet.	6	30
Q T H F	Rain Bird 1806 8 Series MPR Turf Spray 6.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet.	12	30
Q T H TQ F	Rain Bird 1806 12 Series MPR Turf Spray 6.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet.	1	30
4 6 8 10 12 15 18	Rain Bird 1806 ADJ Turf Spray 6.0in. Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet.	12	30
EST LCS RCS CST SST	Rain Bird 1812 15 Strip Series Shrub Spray 12in. Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet.	23	30
Q T H F	Rain Bird 1812 8 Series MPR Shrub Spray 12in. Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet.	16	30
Q T H F	Rain Bird 1812 10 Series MPR Shrub Spray 12in. Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet.	7	30
4 6 8 10 12 15 18	Rain Bird 1812 ADJ Shrub Spray 12in. Pop-Up Sprinkler with Co-Molded Wiper Seal. Side and Bottom Inlet. 1/2in. NPT Female Threaded Inlet.	53	30
1401 1402 1404	Rain Bird 1804-1400 Flood Flood Bubbler 4.0in. popup, install w/ PA-80 adapter.	25	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird PESB 1in., 1-1/2in., 2in., 3in., 3in. Plastic Industrial Remote Control Valve. Low Flow Operating Capability, Globe Configuration. With Scrubber Technology for Reliable Performance in Dirty Water Irrigation Applications.	7
BF	Backflow Preventer 1" Pressure Vacuum Breaker	1
C2	Rain Bird ESP-9V4 4 Zone, 9V battery-operated controller with solenoid. Install with (TBOSPSOL) 9V., DC Latching Solenoid. Use (TBOSADAPP or TBOSADAPB) Adapters for Non-Rain Bird Plastic/Brass valves.	1
C1	Rain Bird ESP-9V6 6 Zone, 9V battery-operated controller with solenoid. Install with (TBOSPSOL) 9V., DC Latching Solenoid. Use (TBOSADAPP or TBOSADAPB) Adapters for Non-Rain Bird Plastic/Brass valves.	1
RS	Hunter MINI-CLIK Rain Sensor, mount as noted	2
M	Water Meter 1" PROPOSED 1" WATER METER PER CITY OF FORT LAUDERDALE STANDARD INSTALLATION DETAILS	1
———	Irrigation Lateral Line: PVC Class 200 SDR 21	±3,321 lf
— — — —	Irrigation Mainline: PVC Class 200 SDR 21	±188.6 lf
= = = = = = = = =	Pipe Sleeve: PVC Schedule 40	4AS NEEDED

Valve Callout
#↓ Valve Number
Valve Flow
#" Valve Size

Sleeve Callout
(#) #" Number of Sleeves / Sleeve Size

PLAN IS DIAGRAMMATIC. CONTRACTOR SHALL INSTALL ALL IRRIGATION EQUIPMENT IN LANDSCAPE OR TURF AREAS WITHIN PROJECT LIMITS.

811 Know what's below. Call before you dig. 811 or 1-800-432-4770 or visit www.callsunshine.com

SLEEVE SIZE SCHEDULE (SCH 40)

PIPE SIZE (or combination of pipe sizes)	SLEEVE SIZE
1"	2"
1¼"	4"
2"	4"
3"	6"
4"	8"
6"	12"

IRRIGATION SYSTEM NOTES

1. CONTRACTOR SHALL REFER TO THE IRRIGATION DETAILS, IRRIGATION SCHEDULE, SPECIFICATIONS AND ALL CONTRACT DOCUMENTS FOR FURTHER AND COMPLETE INSTRUCTIONS.
2. IRRIGATION QUANTITIES ARE PROVIDED FOR CONVENIENCE. IN THE EVENT OF QUANTITY DISCREPANCIES THE DRAWING SHALL TAKE PRECEDENCE. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BIDDING.
3. ANY SUBSTITUTIONS FOR SPECIFIED IRRIGATION EQUIPMENT MUST BE APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION.
4. CONTRACTOR SHALL FIELD ADJUST LOCATION OF IRRIGATION EQUIPMENT AS NECESSARY TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES AND/OR INTERFERE WITH EXISTING ABOVE GROUND ELEMENTS. ALL FIELD ADJUSTMENTS SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE AND SHALL BE COORDINATED WITH THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.
5. CONTRACTOR SHALL FAMILIARIZE HIM/HERSELF WITH THE LIMITS OF WORK AND EXISTING CONDITIONS AND VERIFY ALL INFORMATION. IF DISCREPANCIES EXIST, CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IN WRITING WITHIN SEVEN CALENDAR DAYS OF NOTICE TO PROCEED.
6. IRRIGATION PLAN IS DIAGRAMMATIC. EQUIPMENT SHOWN ON IMPERVIOUS SURFACES IS FOR GRAPHIC CLARITY UNLESS OTHERWISE NOTED. CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITHIN LANDSCAPE AREAS IN PROPERTY LIMITS.

THE IRRIGATION SYSTEM IS DESIGNED TO OPERATE WITH A SOURCE PROVIDING 30 GPM AT 40 PSI.

SPRAY HEAD DESIGN PRESSURE: 30 PSI
BUBBLER DESIGN PRESSURE: 30 PSI

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

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DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

CITY OF FORT LAUDERALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

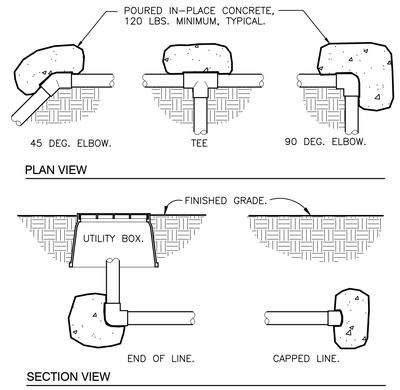
REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
IRRIGATION PLAN

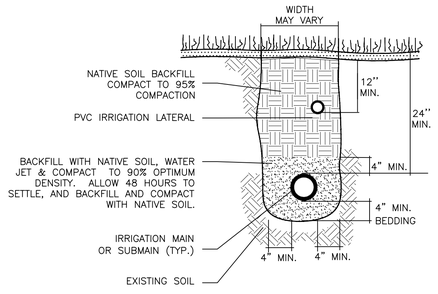
SHEET NO. 20 OF 28
CAD FILE: 20 – IRRIGATION PLAN
DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:19 IRRIGATION PLAN July 30, 2025 10:46:53am K:\Ftl_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\21 IRRIGATION NOTES.dwg
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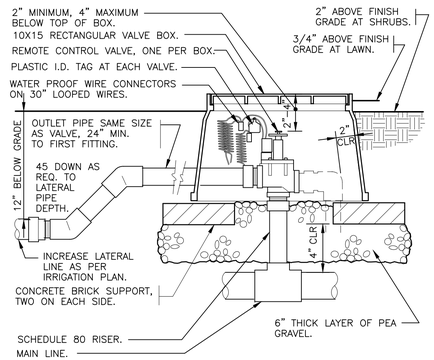
1 THRUST BLOCKING

3/4" = 1'-0" 32 8409.76-01



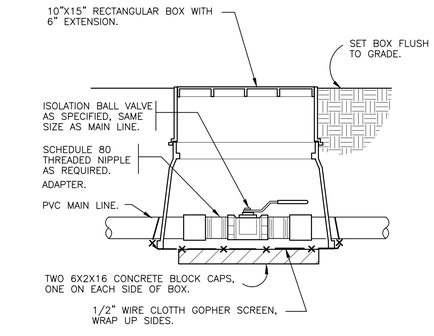
2 TRENCHING DETAIL

NOT TO SCALE 32 8409.76-03



3 ELECTRIC REMOTE CONTROL VALVE

1 1/2" = 1'-0" 32 8406.13-01



4 BRASS BALL ISOLATION VALVE

1 1/2" = 1'-0" 32 8406.33-02

5 WIRE BUNDLE JUNCTION BOX

1 1/2" = 1'-0" 32 8409.79-01

6 BUBBLER ON FLEX HOSE RISER

3" = 1'-0" DETAIL-FILE

7 POP-UP SPRAY FLEX ASSEMBLY

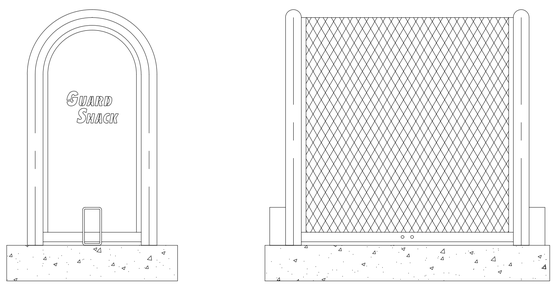
3" = 1'-0" 32 8403.13-02

NOTE:
1. ALL SLEEVES TO EXTEND 2' BEYOND BACK OF CURB ON EACH END.
2. NO 90° OR 45° COUPLINGS TO BE USED ON SLEEVES.
3. SLEEVES MUST BE STRAIGHT TO ALLOW PIPE TO BE INSERTED BY IRRIGATION CONTRACTOR.
4. SLEEVES NOT INSTALLED AT PROPER DEPTH WILL BE REINSTALLED TO CONFORM TO DETAIL.
5. CONTRACTOR TO VERIFY SLEEVE INTEGRITY PRIOR TO FINAL PAVING.

8 IRRIGATION SLEEVING

NTS

STANDARD GUARDSHACK™ ENCLOSURES



GUARDSHACK™ GENERAL SPECIFICATIONS

- All pipe shall be 1 ¼" schedule 40 A.S.T.M. A-53 Grade A- Electric Weld pipe.
- Angle Iron shall be 1" x 1" x ⅛" steel.
- Stainless steel units shall be 1 ¼" schedule 10 A.S.T. M. A-312 304 S.S.
- Expanded metal shall be ½" spacing x # 13 Ga. flattened diamond pattern steel.
- All stainless steel shall be sandblasted after fabrication to remove burrs, flashing and sharp edges.
- There shall be no exposed ends of expanded metal on the outside of the enclosure.
- Welding shall be a minimum of ¼" long welds on 4" spacing.
- Standard Lock Shield Brackets shall be welded on each end of lift off enclosures.
- Hardware kits provided for mounting enclosures.
- On 304 S.S. units, all hinges, exposed hardware, and brackets shall be 304 S.S.
- All hardware shall be securely attached to enclosures. See HK-100 for hardware specifications.
- All enclosures shall withstand a minimum of 200 lbs. per square foot without any permanent deflection or distortion.
- 3/8" spacing between angle iron framework of enclosure and slab to prevent rusting.Only pipe ends to touch slab.

STAINLESS STEEL ELECTRO-POLISH FINISH

All 304 Stainless Steel units shall be chemically electro-polished to impart a lustrous finish to the unit.

Contractor to provide stainless steel Guardshack sized to fully enclose backflow prevented.

9 GUARDSHACK ENCLOSURE

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DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

REVISIONS

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CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
IRRIGATION DETAILS

SHEET NO. 21 OF 28

CAD FILE: 21 - IRRIGATION DETAILS

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:20 IRRIGATION DETAILS July 30, 2025 10:46:53am K:\Ftl_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\21 IRRIGATION NOTES.dwg
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UNDERGROUND IRRIGATION SYSTEM

PART I: GENERAL

1.01 SCOPE

A. The work covered by this specification shall include the furnishing of all labor, materials, tools and equipment necessary to perform and complete the installation of an automatic irrigation system as specified herein and as shown on the drawings and any incidental work not shown or specified which can reasonably be determined to be part of the work and necessary to provide a complete and functional system.

B. The work covered by this specification also includes all permits, federal, state and local taxes and all other costs, both foreseeable and unforeseeable at the time of construction.

C. No deviation from these specifications, the accompanying drawings, or agreement is authorized or shall be made without prior written authorization signed by the Owner or his duly appointed representative.

1.02 QUALITY ASSURANCE

A. Installer Qualifications: A firm specializing in irrigation work with not less than five (5) years of experience in installing irrigation systems similar to those required for this project.

B. Coordination: Coordinate and cooperate with other contractors to enable the work to proceed as rapidly and efficiently as possible.

C. Inspection of Site: The Contractor shall acquaint himself with all site conditions, including underground utilities before construction is to begin. Contractor shall coordinate placement of underground materials with contractors previously working underground in the vicinity or those scheduled to do underground work in the vicinity. Contractor is responsible for minor adjustments in the layout of the work to accommodate existing facilities.

D. Protection of Existing Plants and Site Conditions: The Contractor shall take necessary precautions to protect site conditions to remain. Should damages be incurred, this Contractor shall repair the damage to its original condition at his own expense. Any disruption, destruction, or disturbance of any existing plant, tree, shrub, or turf, or any structure shall be completely restored to the satisfaction of the Owner and his representatives, solely at the Contractor's expense.

E. Protection of Work and Property: The Contractor shall be liable for and shall take the following actions as required with regard to damage to any of the Owner's property.

1. Any existing building, equipment, piping, pipe coverings, electrical systems, sewers, sidewalks, roads, grounds, landscaping or structure of any kind (including without limitation, damage from leaks in the piping system being installed or having been installed by Contractor) damaged by the Contractor, or by his agents, employees, or subcontractors, during the course of his work, whether through negligence or otherwise, shall be replaced or repaired by Contractor at his own expense in a manner satisfactory to Owner, which repair or replacement shall be a condition precedent to Owner's obligation to make final payment under the Contract.

2. Contractor shall also be responsible for damage to any work covered by these specifications before final acceptance of the work. He shall securely cover all openings into the systems and cover all apparatus, equipment and appliances, both before and after being set in place to prevent obstructions on the pipes and the breakage, misuse or disfigurement of the apparatus, equipment or appliance.

3. All trenching or other work under the leaf canopy of any and all trees shall be done by hand or by other methods so that no branches are damaged in any way.

   Buildings, walks, walls, and other property shall be protected from damage. Open ditches left exposed shall be flagged and barricaded by the Contractor by approved means. The Contractor shall restore disturbed areas to their original condition.

4. The Contractor shall be responsible for requesting the proper utility company to stake the exact location of any underground lines including but not limited to electric, gas, telephone service, water, and cable.

   The Contractor shall take whatever precautions are necessary to protect these underground lines from damage. In the event damage does occur, all damage shall be completely repaired to its original condition, at no additional cost to the Owner.

5. The Contractor shall request the Owner, in writing, to locate any private utilities (i.e., electrical service to outside lighting) before proceeding with any excavation. If, after such requests and necessary staking, private utilities which were not staked are encountered and damaged by the Contractor, they shall be repaired by the Owner at no cost to the Contractor. If the Contractor damages staked or located utilities, they shall be repaired at the Contractor's expense.

F. Codes and Inspections: The entire installation shall comply fully with all local and state laws and ordinances and with all established codes arrange for all necessary inspections and shall pay all fees and expenses in connection with same, as part of the work under this Contract. Upon completion of the work, he shall furnish to the "Owner" all inspection certificates customarily issued in connection with the class of work involved.

G. The Contractor shall keep on his work, during its progress, a competent superintendent and any necessary assistants, all satisfactory to the Owner, or Owner's representative.

H. The superintendent shall represent the Contractor in his absence and all directions given to him shall be as binding as if given to the Contractor.

I. The Owner's Landscape Architect or designated individual shall have full authority to approve or reject work performed by the Contractor. The Owner's Authorized Representative shall also have full authority to make field changes that are deemed necessary.

J. Final Acceptance: Final acceptance of the work may be obtained from the Owner upon the satisfactory completion of all work. Acceptance by the Landscape Architect and/or Owner in no way removes the Contractor of his responsibility to make further repairs, corrections and adjustments to eliminate any deficiencies which may later be discovered.

K. Guarantee: All work shall be guaranteed for one year from date of final acceptance against all defects in material, equipment and workmanship to the satisfaction of the Owner. Repairs, if required, shall be done promptly at no cost to the Owner.

1. The guarantee shall also cover repair of damage to any part of the premises resulting from leaks or workmanship, to the satisfaction of the Owner. The Contractor shall not be responsible for work damaged by others. Repairs, if required, shall be done promptly. The guarantee shall state the name of the Owner, provide full guarantee terms, effective and termination date, name and license number of Contractor providing guarantee, address, and telephone number. It shall be signed by the chief executive of the Contractor of his liability under the guarantee. Such warranties shall only supplement the guarantee.

2. If, within ten (10) days after mailing of written notice by the Owner to the Contractor requesting repairs or replacement resulting from a breach of warranty, the Contractor shall neglect to make or undertake with due diligence to make the same, the Owner may make such repairs at the Contractor's expense; provided, however, that in the case of emergency where, in the judgment of the Owner, delay would cause serious loss or damage, repairs or replacement may be made without notice being sent to the Contractor, and Contractor shall pay the cost thereof.

L. The Contractor shall provide full, 100% irrigation coverage in all areas designed with proposed plantings, in accordance with the site's governing permitting requirements and as designed.

M. On-site Observation: At any time during the installation of the irrigation system by the Contractor, the Owner or Landscape Architect may visit the site to observe work underway. Upon request, the Contractor shall be required to uncover specified work as directed by the Owner or material, workmanship or method of installation not meet the standards specified herein, the Contractor shall replace the work at his own expense.

N. Workmanship: All work shall be installed by qualified, skilled personnel, proficient in the trades required, in a neat, orderly, and responsible manner with recognized standards of workmanship. The Contractor shall have had considerable experience and demonstrated ability in the installation of sprinkler irrigation systems of this type.

1.04 SUBMITTALS

All materials shall be those specified and/or approved by the Landscape Architect.

A. Product Data: After the award of the Contract and prior to beginning work, the Contractor shall submit for approval by the Owner and Landscape Architect, two copies of the complete list of materials, manufacturer's technical data, and installation instructions which he proposes to install.

B. Commence no work before approval of material list and descriptive material by the Landscape Architect.

C. Record Drawings: The Contractor shall record on reproducibles, all changes that may be made during actual installation of the system. Provide controller sequencing and control valve locations.

1. Immediately upon installation of any piping, valves, wiring, sprinklers, etc., in locations other than shown on the original drawings or of sizes other than indicated, the Contractor shall clearly indicate such changes on a set of blueline prints. Records shall be made on a daily basis. All records shall be neat and subject to the approval of the Owner.

2. The Contractor shall also indicate on the record prints the location of all wire splices, original or due to repair, that are installed underground in a location other than the controller pedestal, remote control valve box, power source or connection to a valve-in-head sprinkler.

3. These drawings shall also serve as work progress sheets. The Contractor shall make neat and legible notations thereon daily as the work proceeds, showing the work as actually installed. These drawings shall be available at all times for review and shall be kept in a location designated by the Owner's Representative.

4. Progress payment request and record drawing information must be approved by Landscape Architect before payment is made.

5. If in the opinion of the Owner or his representative, the record drawing information is not being properly or promptly recorded, construction payment may be stopped until the proper information has been recorded and submitted.

6. Before the date of the final site observation and approval, the Contractor shall deliver one set (copies) of reproducible record drawing plans and notes to the Landscape Architect. Record drawing information shall be approved by the Landscape Architect prior to submittal to Owner for final payments, including retentions.

D. Operations and Maintenance Manuals: The Contractor shall prepare and deliver to the Owner, or his designated representative within ten (10) calendar days prior to completion of construction, a hard cover binder with three rings containing the following information:

1. Index sheet stating the Contractor's address and business telephone number, list of equipment with name(2) and address(es) of local manufacturer's representative(s).

2. Catalog and parts sheets on every material and equipment installed under this Contract.

3. Complete operating and maintenance instruction on all major equipment. Include initial controller schedule and recommended schedule after establishment period.

4. Demonstrate to and provide the Owner's maintenance personnel with instructions for major equipment and show evidence in writing to the Owner, or his designated representative at the conclusion of the project that this service has been rendered.

1.05 EXPLANATION OF DRAWINGS

A. Due to the scale of the drawings, it is not possible to indicate all offsets, fittings and sleeves which may be required. The Contractor shall carefully investigate the structural and finished conditions affecting all of the work and plan his work accordingly, furnishing such offsets, fittings and sleeves as may be required to meet such conditions.

B. The drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation systems, planting and architectural features. Deviations shall be brought to the Landscape Architects attention.

C. All work called for a on the drawings by notes or details shall be furnished and installed whether or not specifically mentioned in the specifications.

D. The Contractor shall not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or discrepancies in area dimensions exist that might not have been known in engineering. Such obstructions or differences should be brought to the attention of the Landscape Architect. In the event that notification is not performed, the Contractor shall assume full responsibility for any revision necessary.

E. If, in the opinion of the Landscape Architect, the labor furnished by the Contractor is incompetent, unskilled, or unreliable, his equipment inadequate, improper or unsafe, or if the Contractor shall fail to continuously and diligently execute the construction, the Landscape Architect or Owner shall, in writing, instruct the Contractor to remove all such causes of noncompliance and the Contractor shall promptly comply.

F. The Contractor shall be responsible for full and complete coverage of all irrigation areas. The Landscape Architect shall be notified of any necessary adjustments at no additional cost to the Owner. Any revisions to the irrigation system must be submitted and answered in written form, along with any change in Contract price. Layout may be modified, if necessary to obtain coverage. Spacing not to exceed 60% of the diameter.

PART II: PRODUCTS

2.01 MATERIALS

Material and equipment shall be supplied by the Contractor. No substitutions shall be allowed without the prior written approval of the Owner/Landscape Architect. The Contractor shall inspect all materials and equipment prior to installation, and defective materials shall be replaced with the proper materials and equipment. Those items used in the installation found to be defective, improperly installed or not as specified, shall be removed and the proper materials and equipment installed in the proper manner, as interpreted by the Owner/Landscape Architect. The Contractor shall remove all damaged and defective pipe and equipment from the site.

2.02 PIPING

A. General Provisions: All materials throughout the system shall be new and in perfect condition unless otherwise directed by the Landscape Architect.

B. Polyvinyl Chloride Pipe (PVC): (Where indicated on plan, use non-potable purple piping.)

1. Laterals: PVC shall conform to the requirements of ASTM Designation D 2241, Class 1120 or 1220. All lateral piping less than 3" in diameter shall be Class 200 SDR-21.

2. Main Line Under Pressure: PVC shall conform to the requirements of ASTM Designation D 2241, Class 1120 or 1220, Schedule 40 with belled end for solvent weld connection.

3. Pipe Markings: All PVC pipe shall bear the following markings:
   - o Manufacturer's Name
   - o Nominal Pipe Size
   - o Schedule or Class
   - o Pressure Rating of PSI
   - o NSF (National Sanitation Foundation) Approval
   - o Date of Extrusion

2.04 PVC JOINTS

Joints in PVC pipe smaller than 3" shall be solvent welded in accordance with the recommendations of the pipe manufacturer; the solvent cleaner and welding compound furnished with the pipe.

2.05 THREADED CONNECTIONS

A. Threaded PVC connections shall be made up using Teflon tape only.

B. Connection between mainline pipe fittings and automatic or manual control valves shall be made using Schedule 80 threaded fittings and nipples.

2.06 SOLVENT CEMENT

A. General: Provide solvent cement and primer for PVC solvent weld pipe and fittings recommended by the manufacturer. Pipe joints for solvent weld pipe to be belled end. Pipe joints for gasketted pipe to be intrical ring type. Insert gaskets will not be accepted.

B. Thrust Blocks: Main line piping 3" or greater in diameter shall have thrust blocks sized and placed in accordance with the pipe manufacturer's recommendations or, in the absence of specified recommendations by the pipe manufacturer. 3000 PSI concrete thrusts shall be properly installed at tees, elbows, 45's, crosses, reducers, plugs, caps and valves.

2.07 PIPE AND WIRE SLEEVES

A. Sleeves to be installed:

1. The Contractor shall install irrigation system pipe and wire sleeves conforming to the following:

   a. All pipe sleeves shall extend a minimum of 36" beyond the edges of pavement.

   b. All pipe sleeves to be installed beneath future/existing road surfaces shall be PVC pipe Schedule 40 or jack and bore steel pipe as per FDOT specifications, and as shown on plans.

   c. All irrigation system wires shall be sleeved seperately from main or lateral lines.

   d. All pipe sleeves shall be installed at the minimum depth specified for main lines, lateral lines, and electric wire.

   e. Contractor shall coordinate all pipe sleeve locations and depths prior to initiating installation of the irrigation system.

2.08 SPRINKLER HEADS

A. Spray Sprinklers: The sprinkler shall be a fixed spray type designed for in-ground installation. The nozzle shall elevate 6" (or as designated on plan) when in operation. The body of the sprinkler shall be constructed of non-corrosive heavy duty Cycolac. A filter screen shall be in the nozzle piston. All sprinkler parts shall be removable through the tip of the unit by removal of a threaded cap.

   Riser mounted spray shall be as indicated on the plans. The sprinkler shall consist of a nozzle and body. The body of the riser-mount sprinkler shall be constructed of non-corrosive materials. A cone strainer shall be a separate part with the nozzle assembly to allow for easy flushing of the sprinkler. Maximum working pressure at the base of the sprinkler shall be 40 PSI.

(continued...)

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PREPARED BY:
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100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
IRRIGATION NOTES

SHEET NO. 22 OF 28

CAD FILE: 22 - IRRIGATION NOTES

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:21 IRRIGATION NOTES July 30, 2025 10:46:56am K:\ft_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\21 IRRIGATION NOTES.dwg
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2.09 AUTOMATIC CONTROL VALVE

The automatic remote control valves shall be as specified on the plans, or approved equal.

2.10 GATE VALVES

A. Gate valves for 3/4" through 2–1/2" shall be of brass or bronze construction, solid wedge, IPS threads, non–rising stem with wheel operating handle, for a continuous working pressure of 150 PSI.

B. Gate valves for 3" and larger: Iron body, brass or bronze mounted AWWA gate valves, with a clear waterway equal to the full nominal diameter of the valve, rubber gasket for a continuous working pressure of 150p PSI. Valve shall be equipped with a square operating nut.

2.11VALVE BOXES

A. For gate valves, use AMETEK #10–181–014 box with #10–181–015 locking lid, or as per the drawings.

B. For control valves 3/4" through 2", the drip valve assemblies, use AMETEK #10–181–014 box with #10–181–015 locking lid, or sized as necessary to effectively house the equipment

C. For control wiring splices, use AMETEK #10–181–014 box with #10–181–015 locking lid, or as per the drawings.

2.12 IRRIGATION WIRING

A. Wiring used for connecting the electric control valves to the controllers shall be Type UF, 600 volt, single strand, solid copper with PVC insulation 4/64" thick. Size shall be 14 gauge, red for "hot" or lead wires, and common wire to be 14 gauge, white in color.

B. Contractor shall perform an ohm test on ground to assure adequate protection against surges and indirect lightning strikes.

2.13 MISCELLANEOUS MATERIALS

A. Drainage Backfill: Cleaned gravel or crushed stone, graded from 1" maximum to 3/4" minimum.

B. Metalized Underground Tape: The detectable, underground utility marking tape shall consist of a minimum: 5 mil (0.005") overall thickness; five–ply composition; ultra–high molecular weight, 100% virgin polyethylene; acid, alkaline and corrosion resistant; with no less than 150 pounds of tensile break strength per 6" width; color–code impregnated with color stable, lead–free, organic pigments suitable for direct burial. Tapes utilizing reprocessed plastics or resins shall not be acceptable. The detectable, underground utility marking tape shall have a 35 gauge (0.0035") solid aluminum foil, core encapsulated within a 2.55 mil (0.00255") polyethylene backing and a 0.6 mil (0.006") PET cover coating. The laminate on each side shall consist of a 0.75 mil (0.00075") layer of hot LPDE, poly–fusing the "sandwich" without use of adhesives.

2.14 AUTOMATIC CONTROL SYSTEM

An Independent Station Controller: Furnish a solid state controller, as specified on the plans. Each station shall be capable of timing from zero (0) minute to 99 minutes per station in one (1) minute increments.

Each station shall be capable of operating two (2) 7VA electric valve–in–head solenoids.

The stand–alone controller shall have two (2) possible programs.

The stand–alone controller shall provide global percentage increase/decrease (water budget) for all stations simultaneously, from ten (10) to two hundred (200) percent, in ten (10) percent increments.

All stations shall be able to be turned on/off manually buy operating timing mechanism or by manual switch at station output.

The stand–alone controller shall incorporate an integral MOV surge protection into the terminal block for each of its 24 VAC field wire outputs. Controller power input wires will also incorporate surge protection.

The control panel shall provide continuous display time. It shall have alphanumeric displays of descriptive English menus and legend identifiers with cursor selection of function and precision value adjustment by rotary dial input.

The stand–alone controller shall be UL listed and FCC approved.

The stand–alone controller shall have 117 VAC, 60 Hz input, 26.5 VAC, 60 Hz output for operating 24 VAC solenoids.

The stand–alone controller cabinet shall be a lockable and weather–resistant outdoor cabinet. Mount as noted on plans.

The controller shall be equipped with lightening protection, by the Contractor, on both the primary (120v) and each secondary (24v) circuit. The controller circuits shall be grounded to a copper clad grounding rod located at each controller.

The controller shall be equipped for a water conservation device. as specified.

PART III: EXECUTION

3.01 INSPECTION

The Contractor shall examine the areas and conditions under which landscape irrigation system is to be installed and notify the Landscape Architect in writing of conditions detrimental to the proper and timely completion of the work. The Contractor shall proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Landscape Architect.

3.02 PREPARATION

The Contractor shall provide sleeves to accommodate piping under walks or paving. The Contractor shall coordinate with other trades and install to accurate levels prior to paving work. Cutting and patching of paving and concrete will not be permitted. The Contractor shall maintain all warning signs, shoring, barricades, flares and red lanterns, as required by any local codes, ordinances or permits.

3.03 TRENCHING AND BACKFILLING

A. Excavation: The Contractor shall stake out the location of each run of pipe, sprinkler heads, sprinkler valves and isolation valves prior to trenching. Excavation shall be open vertical construction sufficiently wide to provide free working space around the work installed and to provide ample space or backfilling and tamping. Trenches for pipe shall be cut to required grade lines, and compacted to provide accurate grade and uniform bearing for the full length of the line. The bottom of the trenches shall be free of rock or other sharp edged objects. Minimum cover shall be as follows:

Pipe and Wire Depth

Pressure Mainline	18" at top of pipe from Finish Grade
Lateral Piping (rotor)	12" at top of pipe from Finish Grade
Lateral Piping (pop–up)	12" at top of pipe from Finish Grade
Control Wiring	Side of main Line

B. Minimum Clearances: All pipelines shall have a minimum clearance of six inches from each other and from lines of other crafts. Parallel lines shall not be installed directly over one another. No lateral line shall be installed in the main–line trench.

3.04 INSTALLATION OF PIPING

A. PVC Pipe and Joints: The Contractor shall not install solvent wild pipe when air temperature is below 40ø F. Installation shall be in accordance with the manufacturer's instructions.

1. Only the solvent recommended by the pipe manufacturer shall be used. All PVC pipe and fittings shall be installed as outlined and instructed by the pipe manufacturer, and it shall be the Contractor's full responsibility to make arrangements with the pipe manufacturer for any field assistance that may be necessary. The Contractor shall assume full responsibility for the correct installation.

3.05 BACKFILLING PROCEDURES

Initial backfill on PVC lines shall be pulverized native soil, free of foreign matter. Within radius of 4" of the pipe shall be clean soil or sand. Plant locations shall take precedence over sprinkler and pipe locations. The Contractor shall coordinate the location of trees and shrubs with the routing of lines and final head locations.

A. Backfill and Compaction: The Contractor shall leave trenches slightly mounded to allow for settlement after the backfilling is completed. The Contractor shall clean the site of the work continuously of excess waste materials as the backfilling progresses, and leave in a neat condition. No trenches shall be left open for a period of more than 48 hours. Protect open trenches as required.

The Contractor shall carefully backfill excavated materials approved for backfilling, consisting of earth, loam, sand, and other approved materials, free of rock and debris over 1" in size. Backfill shall be compacted to original density of surrounding soil without dips, sunken areas, or irregularities.

The Contractor shall conform to DOT requirements for methods and required compaction percentages, for roads and paving.

The Contractor shall hand place the first 6" of backfill (or to top of pipe) and have it walked on so as to secure the position of the pipe and wire.

No wheel rolling will be allowed. The Contractor shall remove rock or debris extracted from backfill materials and dispose of offsite. The Contractor shall fill any voids left in backfill with approved backfill materials.

B. Existing Lawns: Where trenching is required across existing lawns, uniformly cut strips of sod 6" wider than trench. The Contractor shall remove sod in rolls of suitable size for handling and keep moistened until replanted. The Contractor shall replant sod within 48 hours after removal, roll and water generously. The Contractor shall resod any areas not in healthy condition equal to adjoining lawns 10 days after replanting.

C. Seeded Area: Trenching will be required across existing seeded areas, primarily roadway edging. The Contractor shall conform to the requirements of seeding, Section 02930 for the reseeding of the disturbed trench area.

D. Pavements: Jack and bore or directional bore piping under paving materials as per local regulatory codes. No cutting and patching of pavement will be permitted.

3.06 VALVES

A. Isolation Valves: Shall be sized corresponding to adjacent pipe size. Specified valve boxes shall be installed flush with finish grade in such a manner that surface forces applied to their exposed area will not be transmitted to the piping in which the valve is installed nor any other piping, wiring or other lines in the vicinity of said valves.

B. Gate Valves: Install where shown, in valve boxes.

C. Electric Control Valves: Shall be installed in specified valve boxes. The valve shall have 6" of 3/4" pea gravel installed below the bottom of the valve. If the valve box does not extend to the base of the valve, a valve box extension shall be installed. Electric control valves shall be installed where shown and grouped together where practical. The Contractor shall place no closer than 24" to walk edges, bikeway edges, buildings and walls. The Contractor shall adjust the valve to provide flow rate or rated operating pressure required for each sprinkler circuit.

3.07 CONDUIT AND SLEEVES

A. Conduit and Sleeves for Control Wiring and Main/Lateral Pipe: The Contractor shall provide and install where necessary. Contractor shall coordinate locations of previously installed sleeving with the General Site Contractor.

The Contractor shall coordinate installation of sleeves with work of other disciplines.

3.08 CONTROLS

A. The Contractor shall connect electric control valves to controllers in a clockwise sequence to correspond with station settings beginning with Stations 1, 2, 3, etc. Automatic controllers shall be provided and installed by the Contractor as noted on the drawings. All zones will be labeled on the controller.

B. Controllers shall be equipped with lightning protection and grounded to a standard 5/8" copper clad steel ground rod driven a minimum of 8' into the ground and clamped.

C. The electrical service to the controllers shall be performed by an electrical subcontractor in compliance with NEC requirements.

3.09 CONTROL WIRE

A. Control wiring between the controller and electric valves shall be buried in main line trenches or in separate trenches. Electrical connection at valve will allow for pigtail so solenoid can be removed from valve with sufficient slack to allow ends to be pulled 12" above ground for examination and cleaning.

B. An expansion loop shall be provided at every valve at 100' o.c. Expansion loop shall be formed by wrapping wire at least eight times around a 3/4" pipe and withdrawing pipe.

C. The wire shall be bundled and taped every ten feet. The wire shall be laid in the trench prior to installing the pipe being careful to install wire beneath and 6" to the side of the main pipe line.

D. Electrical connections to electric control valves shall be made with Rainbird Pen–Tite or Techdel GT–3–GEL – Tite connectors or equal.

Power Connections: Electrical connections to power and signal wires shall be made using 3M 82–A2 power cable splice kits.

3.10 SPRINKLER HEADS

A. General Provisions:

1. Sprinkler heads shall be installed as designated on the shop drawings. Heads shall be installed on flexible PVC. Top to be flush with finish grade or top of curb.

2. Spacing of heads shall not exceed the maximum indicated on the shop drawings (unless directed by the Landscape Architect). In no case shall the spacing exceed the maximum recommended by the manufacturer.

B. Head Types:

1. Pop–up– Rotary Sprinkler Heads: Shall be installed on flex joint and be set with top of head flush with finish grade. Heads installed at curb shall have 6" to 10" between perimeter of head and concrete. Heads placed at edge of pavement having no curb shall be installed 24" from edge of pavement.

2. Spray Pop–up Sprinkler Heads: Shall be installed on flexible PVC and be set with top of head flush with finished grade. Sprinkler heads placed adjacent to curbs will be installed 9" from concrete. Sprinkler heads placed adjacent to pavement having no curb shall be installed 24" from the edge of pavement.

3.11 COMPLETION

A. Flushing: Before sprinkler heads are set, the Contractor shall flush the lines thoroughly to make sure there is no foreign matter in the lines.

The Contractor shall flush the main lines from dead end fittings for a minimum of five minutes under a full head of pressure.

B. Testing: The Contractor shall notify Landscape Architect and Owner forty–eight (48) hours in advance of testing.

Prior to backfilling of main line fittings, Contractor shall fill the main line piping with water, in the presence of the Owner/Landscape Architect, taking care to purge the air from it by operating all the sprinkler control valves one or more times and/or such other means as may be necessary. A small, high pressure pump or other means of maintaining a continuous water supply shall be connected to the main line and set so as to maintain 100 PSI in the main line system for two (2) hours without interruption. When this has been accomplished and while the pressure in the system is still 100 PSI, leakage testing shall be performed in accordance with AWWA Standard C–600. Pressure readings shall be noted and make up water usage shall be recorded. Should the rate of make up water usage indicate significant leakage, the source of such leakage shall be found and corrected and the system then retested until the Owner/Landscape Architect is satisfied that the system is reasonably sound. Lateral line testing shall be conducted during the operating testing of the system by checking visually the ground surface until no leaks in this portion of the system are evident. Leaks shall be repaired or paid for by the Contractor at any time they appear during the warranty period.

C. Adjustment and Coverage of System: Coordinate pressure testing with adjustments and coverage test of system so both may occur at the same time. The Contractor shall balance and adjust the various components of the system so that the overall operation of the system is most efficient. This includes a synchronization of the controllers, adjustments to pressure regulators, pressure relief valves, part circle sprinkler heads, and individual station adjustments on the controllers.

3.12 WARRANTY

A. The Contractor shall fully warrant the landscape irrigation system for a period of one (1) year after the written final acceptance and will receive a written confirmation from the Landscape Architect that the warranty period is in effect.

B. During the warranty period, the Contractor will enforce all manufacturer's and supplier's warranties as if made by the Contractor himself. Any malfunctions, deficiencies, breaks, damages, disrepair, or other disorder due to materials, workmanship, or installation by the Contractor and his suppliers shall be immediately and properly corrected to the proper order as directed by the Owner and/or Landscape Architect.

C. Any damages caused by system malfunction shall be the responsibility of the Contractor who shall make full and immediate restoration for said damages.

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ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

PREPARED BY:
Kimley»Horn
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WWW.KIMLEY–HORN.COM REGISTRY No. 35106

ENGINEER: TOM HARGRETT, PLA
REG. No: 66751 2
DATE: 05/16/2025
TEL: (954) 535–5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

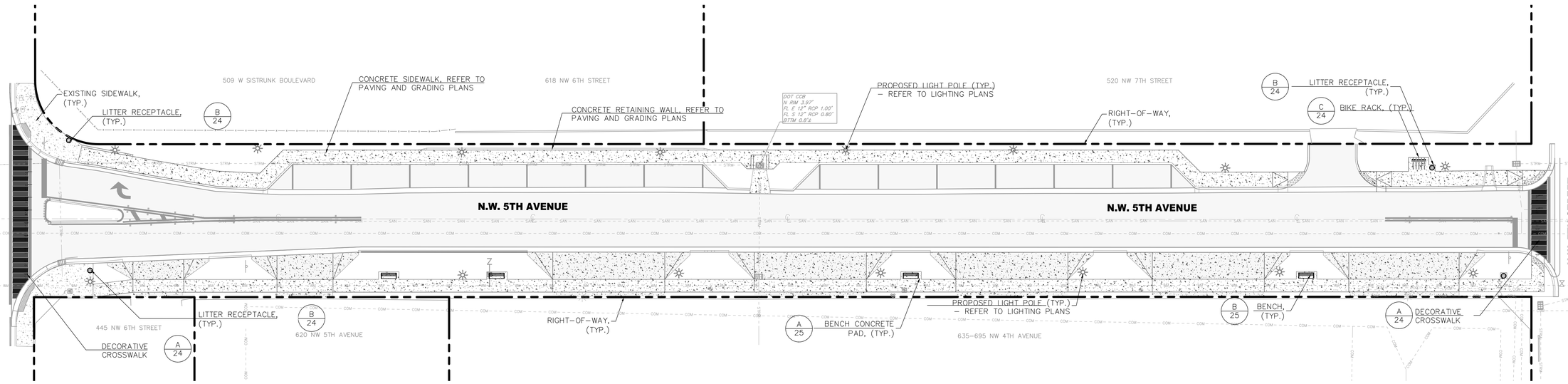
PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
IRRIGATION NOTES

SHEET NO. 23 OF 28

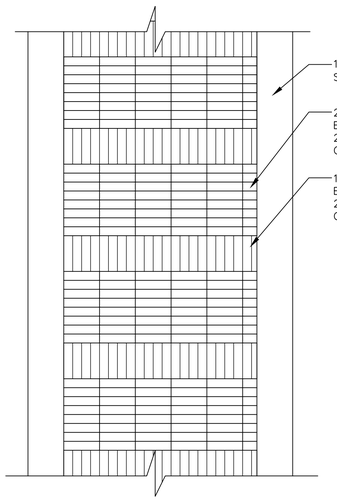
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DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:22 IRRIGATION NOTES July 30, 2025 10:46:56am K:\fl_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\21 IRRIGATION NOTES.dwg
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SITE FURNISHING		
	LITTER RECEPTACLE	4
	BIKE RACK	1
	BENCH	4



NOTES:

1. PATTERNED TEXTURED PAVEMENT: STREETBRICK XL BY ATLANTIC PAVING CO. (305)513-8632 (OR ALTERNATIVE FDOT APL PRODUCT)

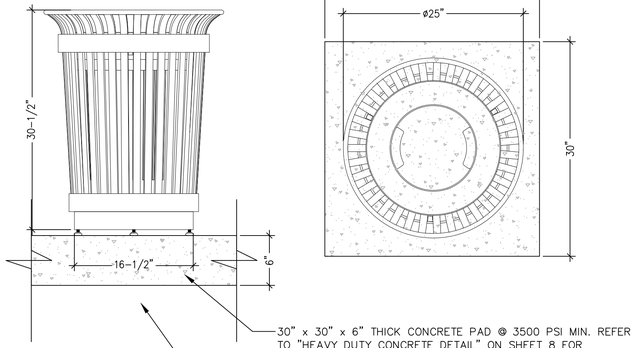
   FDOT APL CERFICIATION 523-000-020

2. SUBMIT COLOR SAMPLE TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

3. INSTALL PER MANUFACTURE'S SPECIFICATION WITHIN VOIDS EXISTING CROSSWALK MARKINGS.

A DECORATIVE CROSSWALK TREATMENT

PLAN NTS

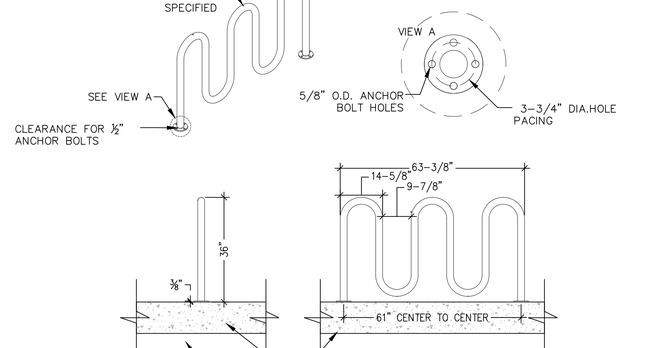


LITTER RECEPTACLE:

1. MANUFACTURER:
   VICTOR STANLEY (WWW.VICTORSTANLEY.COM)
   FLORENCE GBENRO – florenceg@victorstanley.com
2. MODEL: RB-24, STEELSITES RB,24-GALLON LITTER RECEPTACLE WITH DOME LID
3. COLOR/FINISH: BLACK
4. INSTALLATION:
   ANCHOR BOLTED IN FOOTING PER MANUFACTURER'S SPECIFICATION USING SS TAMPER RESISTANT EXPANSION BOLTS.
5. MINIMUM QUANTITY: 4
6. OWNER TO CONFIRM SELECTION FROM MANUFACTURER'S FULL RANGE

B LITTER RECEPTACLE

NTS

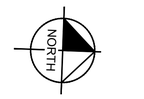


BIKE RACK:

1. MANUFACTURER:
   VICTOR STANLEY (WWW.VICTORSTANLEY.COM)
   FLORENCE GBENRO – florenceg@victorstanley.com
2. MODEL: BRCS-105, CYCLE SENTRY
3. COLOR/FINISH: BLACK
4. INSTALLATION:
   SURFACE MOUNT IN FOOTING PER MANUFACTURER'S SPECIFICATION USING SS TAMPER RESISTANT EXPANSION BOLTS.
5. MINIMUM QUANTITY: 1
6. OWNER TO CONFIRM SELECTION FROM MANUFACTURER'S FULL RANGE

C BIKE RACK

NTS



GRAPHIC SCALE IN FEET
0 10 20 40

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ENGINEER: TOM HARGRETT, PLA
REG. No: 67512
DATE: 05/16/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

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ENGINEERING & ARCHITECTURE
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PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
HARDSCAPE PLAN

SHEET NO. 24 OF 28

CAD FILE: 24 – HARDSCAPE PLAN

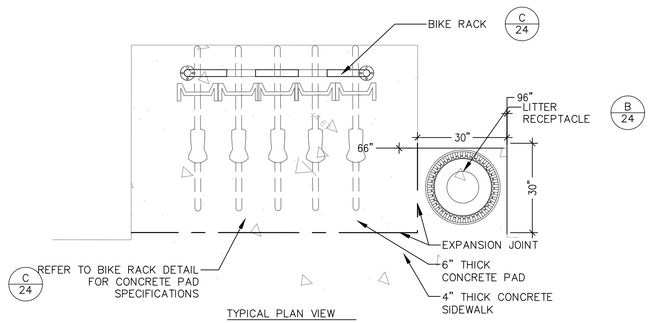
DRAWING FILE NO.

PREPARED BY:
Kimley»Horn

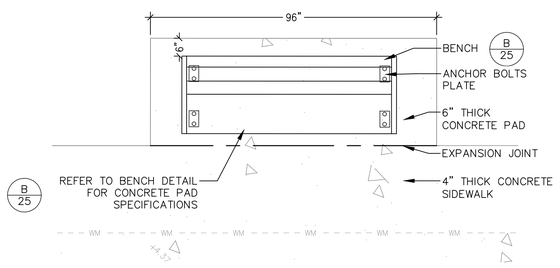
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PHONE: 954-535-5100 FAX: 954-739-2247
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Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:23 HARDSCAPE PLAN July 30, 2025 10:47:13am K:\Ftl_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\23 HARDSCAPE PLAN.dwg
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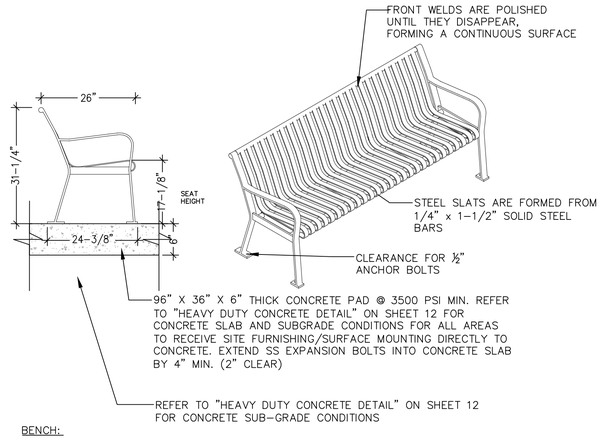
TYPICAL PLAN VIEW



TYPICAL PLAN VIEW

A BENCH CONCRETE PAD

NTS



BENCH:

1. MANUFACTURER:
   VICTOR STANLEY (WWW.VICTORSTANLEY.COM)
   FLORENCE GBENRO – florenceg@victorstanley.com
2. MODEL:
   RB-28, STEELSITES RB,6' BENC.
3. COLOR/FINISH: BLACK
4. INSTALLATION:
   SURFACE MOUNT IN FOOTING PER MANUFACTURER'S SPECIFICATION USING SS TAMPER RESISTANT EXPANSION BOLTS.
5. MINIMUM QUANTITY: 4
6. OWNER TO CONFIRM SELECTION FROM MANUFACTURER'S FULL RANGE

B BENCH

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PREPARED BY:
Kimley»Horn

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DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

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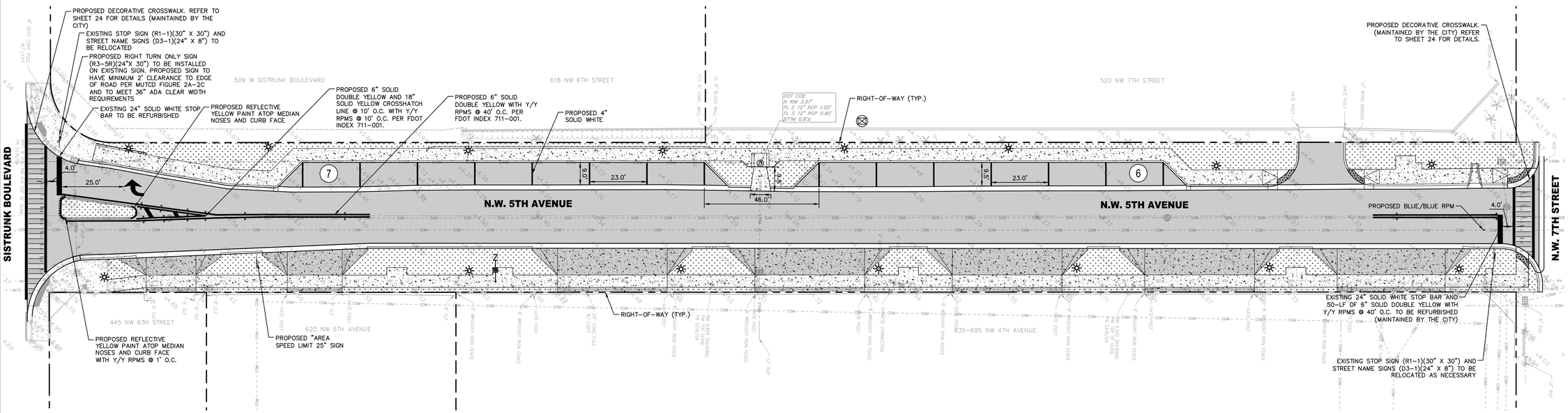
PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
HARDSCAPE DETAILS

SHEET NO. 25 OF 28

CAD FILE: 25 – HARDSCAPE DETAILS

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:24 HARDSCAPE DETAILS July 30, 2025 10:47:37am K:\Ftl_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plotsheets\24 HARDSCAPE DETAILS.dwg
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LEGEND	
	LIMITS OF RIGHT-OF-WAY
	PROPOSED RPM
	EXISTING SIGN

THE FOLLOWING ITEMS ARE NOT REVIEWED OR ACCEPTED BY BROWARD COUNTY:

1. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION'S REVIEW DOES NOT INCLUDE A REVIEW AND ACCEPTANCE OF THE PROJECT'S DESIGN OR OPERATION. THESE ITEMS ARE TO BE REVIEWED AND APPROVED BY THE CITY ENGINEER.
2. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION DOES NOT REVIEW AND APPROVE, OR INSPECT AND ACCEPT THE FOLLOWING ITEMS FOR MAINTENANCE: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, ADVANCED WARNING PAVEMENT MARKINGS FOR SPEED TABLES, BLINKER SIGNS, RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGNS AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK OR ASPHALT WORK.
3. THE CITY ENGINEER IS RESPONSIBLE FOR THE REVIEW AND APPROVAL OF THE DESIGN AND OPERATION OF THE PROJECT, AND FOR THE INSPECTION AND ACCEPTANCE OF THE FOLLOWING ITEMS THAT WILL BE MAINTAINED BY THE CITY: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, PAVEMENT MARKINGS ON OR ADJACENT TO PAINTED ASPHALT, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, ADVANCED WARNING PAVEMENT MARKINGS FOR SPEED TABLES, BLINKER SIGNS, RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGNS AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK OR ASPHALT WORK.
4. ALL TRAFFIC CONTROL DEVICES MAINTAINED BY BROWARD COUNTY, THAT ARE REMOVED OR DAMAGED BY CONSTRUCTION, SHALL BE REPLACED BY CONTRACTOR USING CURRENT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS.

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PREPARED BY:
Kimley»Horn
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FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

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PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

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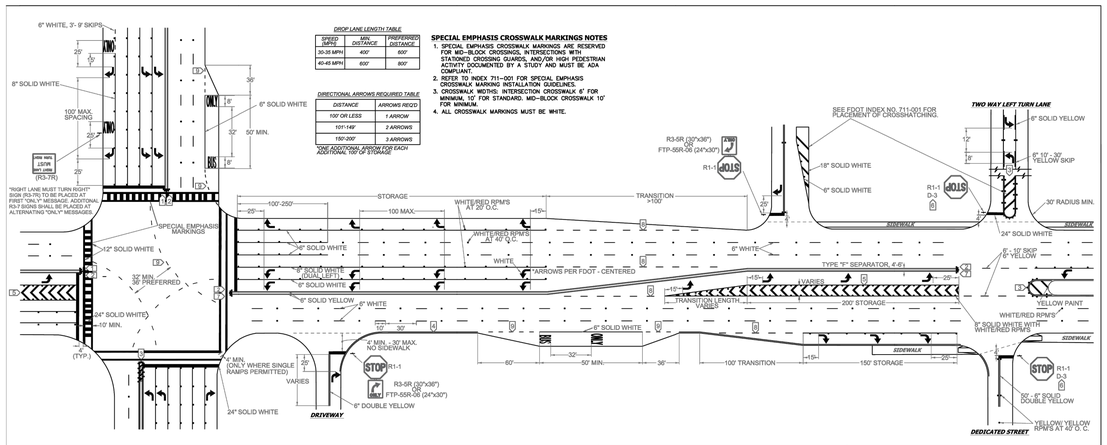
PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
SIGNING AND PAVEMENT MARKING PLAN

SHEET NO. 26 OF 28

CAD FILE: 4 - SITE PLAN

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:26 SIGNING AND PAVEMENT MARKING PLAN July 30, 2025 10:48:09am K:\Ft_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\26 SIGNING AND PAVEMENT MARKING PLAN.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



DROP LANE LENGTH TABLE		
SPEED (MPH)	MIN. DISTANCE	PREFERRED DISTANCE
30-35 MPH	400'	600'
40-45 MPH	600'	800'

DIRECTIONAL ARROWS REQUIRED TABLE	
DISTANCE	ARROWS REQ'D
100' OR LESS	1 ARROW
101'-149'	2 ARROWS
150'-200'	3 ARROWS
*ONE ADDITIONAL ARROW FOR EACH ADDITIONAL 100' OF STORAGE	

SPECIAL EMPHASIS CROSSWALK MARKINGS NOTES

1. SPECIAL EMPHASIS CROSSWALK MARKINGS ARE RESERVED FOR MID-BLOCK CROSSINGS, INTERSECTIONS WITH STATIONED CROSSING GUARDS, AND/OR HIGH PEDESTRIAN ACTIVITY DOCUMENTED BY A STUDY AND MUST BE ADA COMPLIANT.
2. SEE FDOT INDEX 711-001 FOR SPECIAL EMPHASIS CROSSWALK MARKING INSTALLATION GUIDELINES.
3. CROSSWALK WIDTHS: INTERSECTION CROSSWALK 6' FOR MINIMUM, 10' FOR STANDARD. MID-BLOCK CROSSWALK 10' FOR MINIMUM.
4. ALL CROSSWALK MARKINGS MUST BE WHITE.

NOTES

1. ALL PAVEMENT MARKINGS SHALL BE ALKYD BASED THERMOPLASTIC AND FULLY RETROREFLECTORIZED.
2. ALL PAVEMENT MARKINGS ON PAVER SYSTEMS SHALL BE 3M 380/381 SERIES TAPE OR EQUIVALENT AND APPLIED WITH P60 ADHESIVE AS PER MANUFACTURERS SPECIFICATIONS.
3. ALL PAVEMENT MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", BCTED STANDARDS, AND FDOT DESIGN STANDARDS.
4. SEE FDOT INDEX NO 706-001 FOR PLACEMENT OF RPM's (FOR BULLNOSE RPM TREATMENT, SEE LEGEND NO. 1)
5. RPM's SHALL BE CLASS "B" OR EQUIVALENT, APPLIED WITH EPOXY OR BITUMINOUS ADHESIVE.
6. FDOT APPROVED SEALER SHALL BE USED WHEN APPLYING MARKINGS ON CONCRETE.
7. FOR BIKE LANE DETAILS SEE FDOT INDEX NO. 711-002.
8. EXISTING MARKINGS SHALL BE REMOVED BY WATER BLASTING OR SAND BLASTING.
9. ALL STOP LINES TO BE 4' BEHIND CROSSWALK OR SIDEWALK.
10. PAVEMENT MARKING REFLECTIVITY SHALL BE UNIFORM ACROSS THE ENTIRE STRIPE AND SHALL HAVE A MINIMUM REFLECTIVITY READING OF 250 MILLICANDELAS FOR WHITE AND 175 MILLICANDELAS FOR YELLOW.
11. ALL PRODUCTS MUST BE ON FDOT'S APPROVED PRODUCTS LIST (APL).
12. RPM'S SHALL NOT BE INSTALLED ADJACENT TO BIKE LANES.
13. LONGITUDINAL CROSSWALK LINES SHALL BE INSTALLED AT ALL CROSS STREETS ON COUNTY ROADS THAT ARE FOUR LANES OR GREATER.

LEGEND

1. YELLOW/YELLOW RPM DETAILS — DIRECTION OF TRAVEL; CENTERLINE; 2' OC, 1' MIN TO CROSSWALK; REFLECTIVE YELLOW; DIRECTION OF TRAVEL
2. MEDIAN NOSE PAINT DETAILS — RAISED SEPARATOR; GRASS MEDIAN; POINT OF CURVE; REFLECTIVE YELLOW; RADIUS POINT; * DO NOT PAINT BRICK PAVERS
3. PAINTED MEDIAN DETAILS — DIRECTION OF TRAVEL; 1' OC; 6" SOLID DOUBLE YELLOW; 6" YELLOW PAINT; 18" SOLID YELLOW; YELLOW/YELLOW RPM's
4. EDGE LINE DETAILS — 6" SOLID WHITE OR YELLOW; EDGE OF PAVEMENT
5. CHEVRON DETAILS - CROSSWALK AREAS AND IN FRONT OF CURB RAMPS — DIRECTION OF TRAVEL; WHITE/RED RPM's; 18" SOLID WHITE; 6" SOLID WHITE; (SEE FDOT INDEX NO. 17346 FOR SPACING OF CHEVRONS)
6. STREET NAME BLADE DETAILS — SEE BCTED STOP SIGN AND STREET IDENTIFICATION ASSEMBLY TYPICAL DETAILS.
7. TYPE IV SEPARATOR DETAILS — 2'; REFLECTIVE YELLOW PAINT; YELLOW/YELLOW RPM's; 6'-12'; 8" SOLID YELLOW; TYPE 'D' CURB AND GUTTER
8. 6'-10' SKIP DETAILS — 6' - 10' SKIPS 8" WHITE SHALL BE USED FOR THE FOLLOWING CONDITIONS:
   - TRANSITIONS AT ALL LEFT AND RIGHT TURN LANES
9. 2'-4' SKIP DETAILS — 2' - 4' SKIPS 6" WHITE SHALL BE USED FOR THE FOLLOWING CONDITIONS:
   - RADIUS GUIDELINES BETWEEN DUAL LEFTS TURN MOVEMENT (90' RADIUS PREFERRED OR AS NOTED ON PLANS)
   - BUS BAY TRANSITIONS

STOP SIGN NOTE

WHERE SIDE ROADS INTERSECT A MULTI LANE STREET OR HIGHWAY THAT HAS A SPEED LIMIT OF 45 MPH OR HIGHER, THE MINIMUM SIZE OF THE STOP SIGNS FACING THE SIDE ROAD APPROACHES, EVEN IF THE SIDE ROAD ONLY HAS ONE APPROACH LANE, SHALL BE 36"X36".

WHERE SIDE ROADS INTERSECT A MULTI-LANE (INCLUDING TURN LANE) STREET OR HIGHWAY THAT HAS A SPEED LIMIT OF 40 MPH OR LOWER, THE MINIMUM SIZE OF THE STOP SIGN FACING THE SIDE ROAD APPROACHES SHALL BE 36"X36".

REVISIONS	
DATE	DESCRIPTION
11-24-2020	UPDATED NOTES
04-14-2021	UPDATED NOTES
05-06-2022	UPDATED NOTES

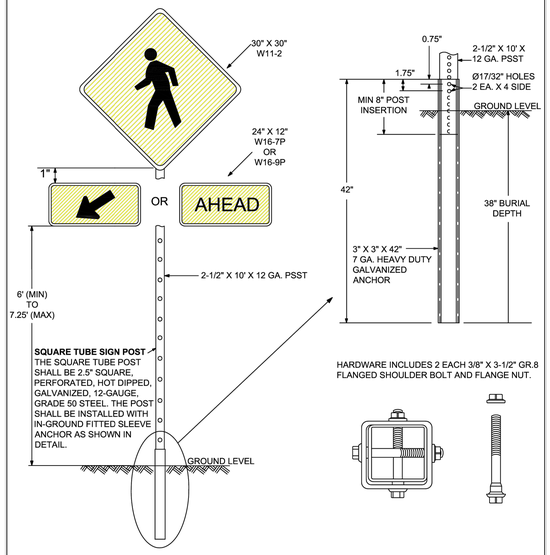
BROWARD COUNTY FLORIDA

PUBLIC WORKS DEPARTMENT TRAFFIC ENGINEERING DIVISION	
DESIGN BY: CARMELO CARATOZZOLO, P.E.	SCALE: NTS
DRAWN BY: STEPHON RAMOUTAR	
CHECKED BY: CARMELO CARATOZZOLO, P.E.	

PAVEMENT MARKINGS AND SIGNS DETAILS

SHEET NO. 1 OF 1

W11-2 (30"x 30") & SUPPLEMENTAL (24"x12") SIGN ASSEMBLY



SQUARE TUBE SIGN POST
THE SQUARE TUBE POST SHALL BE 2.5" SQUARE, PERFORATED, HOT DIPPED, GALVANIZED, 12-GAUGE, GRADE 50 STEEL. THE POST SHALL BE INSTALLED WITH IN-GROUND FITTED SLEEVE ANCHOR AS SHOWN IN DETAIL.

HARDWARE INCLUDES 2 EACH 3/8" X 3-1/2" GR.8 FLANGED SHOULDER BOLT AND FLANGE NUT.

1. SCHOOL ZONE AND PEDESTRIAN SIGNS SHALL BE COMPRISED OF REFLECTIVE FLUORESCENT YELLOW-GREEN SHEETING. (SEE BCTED TECHNICAL POLICY MEMO #TPM-16-001 ON BCTED WEBSITE)
2. NOT FOR USE WITH RECTANGULAR RAPID FLASHING BEACONS

BROWARD COUNTY FLORIDA — PUBLIC WORKS DEPARTMENT, TRAFFIC ENGINEERING DIVISION

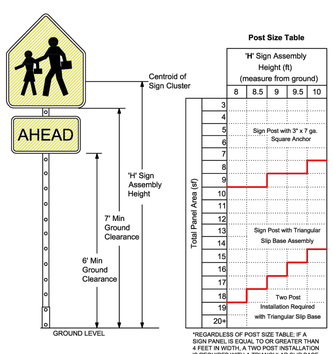
W11-2 (30"x 30") & SUPPLEMENTAL (24"x 12") SIGN ASSEMBLY	
REVISION: 11-15-18	SCALE: NTS
	DESIGN BY: YVES D'ANJOU, P.E.
	DRAWN BY: STEPHON RAMOUTAR
SHEET 1 OF 1	CHECKED BY: ANDREW SEBO, P.E., PTOE

THE FOLLOWING ITEMS ARE NOT REVIEWED OR ACCEPTED BY BROWARD COUNTY:

1. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION'S REVIEW DOES NOT INCLUDE A REVIEW AND ACCEPTANCE OF THE PROJECT'S DESIGN OR OPERATION. THESE ITEMS ARE TO BE REVIEWED AND APPROVED BY THE CITY ENGINEER.
2. BROWARD COUNTY TRAFFIC ENGINEERING DIVISION DOES NOT APPROVE OR INSPECT AND ACCEPT THE FOLLOWING ITEMS FOR MAINTENANCE: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, ADVANCED WARNING PAVEMENT MARKINGS FOR SPEED TABLES, BLINKER SIGNS, RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK OR ASPHALT WORK.
3. THE CITY ENGINEER IS RESPONSIBLE FOR THE REVIEW AND APPROVAL OF THE DESIGN AND OPERATION OF THE PROJECT, AND FOR THE INSPECTION AND ACCEPTANCE OF THE FOLLOWING ITEMS THAT WILL BE MAINTAINED BY THE CITY: PAVEMENT MARKINGS ON OR ADJACENT TO PAVER BRICKS, PAINTED ASPHALT, STAMPED ASPHALT OR PAVEMENT MARKINGS MADE OF PAVER BRICKS, PAVEMENT MARKINGS ON OR ADJACENT TO PAINTED ASPHALT, RAISED INTERSECTIONS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED MID-BLOCK CROSSWALKS AND RELATED MARKINGS AND SIGNING, UN-WARRANTED CROSSWALKS AND RELATED MARKINGS AND SIGNING, PAINTED/DECORATIVE CROSSWALKS, RAISED CROSSWALKS AND RELATED MARKINGS AND SIGNING, ADVANCED WARNING PAVEMENT MARKINGS FOR SPEED TABLES, BLINKER SIGNS, RECTANGULAR RAPID FLASHER BEACONS AND RELATED MARKINGS AND SIGNING, ON-STREET PARKING AND RELATED MARKINGS AND SIGNING, IN-ROAD LIGHTING AND RELATED MARKINGS AND SIGNING, GREEN BIKE LANES, FLEXIBLE DELINEATORS, DECORATIVE SIGNS AND DECORATIVE SIGN POSTS, PLANTERS, ON-SITE PAVEMENT MARKINGS AND SIGNING, OFF-SITE PAVEMENT MARKINGS AND SIGNING IN RIGHT-OF-WAY THAT IS NOT DEDICATED FOR PUBLIC USE, SIDEWALK WORK AND ASPHALT WORK.
4. ALL TRAFFIC CONTROL DEVICES MAINTAINED BY BROWARD COUNTY, THAT ARE REMOVED OR DAMAGED BY CONSTRUCTION, SHALL BE REPLACED BY CONTRACTOR USING CURRENT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION STANDARDS.

GUIDE TO USE THIS STANDARD:

1. Calculate the Total Panel Area and the centroid 'C' for an individual sign or a sign cluster.
2. Determine the height 'H' from the groundline for the individual sign or the cluster.
3. Consult the Post Size Table and find the intersection point.
4. Design the post and the foundation according to the required Post Size and Assembly Details.

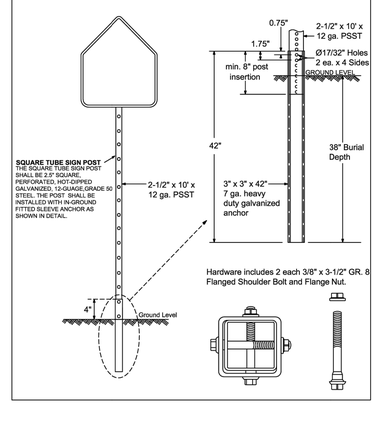


Post Size Table

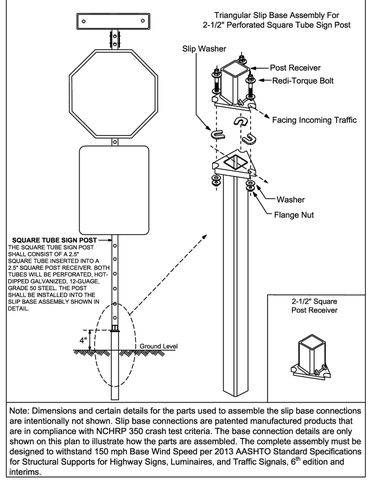
Total Panel Area (sf)	'H' Sign Assembly Height (ft) (measure from ground) 8	8.5	9	9.5	10
3	Sign Post with 3" x 7 ga. Square Anchor				
4					
5					
6					
7					
8					
9					
10					
11					
12					
13	Sign Post with Triangular Slip Base Assembly				
14					
15					
16					
17					
18					
19	Two Post Installation Required with Triangular Slip Base				
20+					

*REGARDLESS OF POST SIZE TABLE: IF A SIGN PANEL IS EQUAL TO OR GREATER THAN 4 FEET IN WIDTH, A TWO POST INSTALLATION IS REQUIRED WITH A TRIANGULAR SLIP BASE.

Sign Post with 3" x 7 ga. Square Anchor



Sign Post with Triangular Slip Base



Note: Dimensions and certain details for the parts used to assemble the slip base connections are intentionally not shown. Slip base connections are patented manufactured products that are in compliance with NCHRP 350 crash test criteria. The base connection details are only shown on this plan to illustrate how the parts are assembled. The complete assembly must be designed to withstand 150 mph Base Wind Speed per 2013 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 6th edition and interims.

REVISIONS	
DATE	DESCRIPTION
03-21-2017	UPDATED POST SIZE
11-24-2020	ADDED POST SIZE NOTE
02-05-2021	UPDATED POST BASE HEIGHT

BROWARD COUNTY FLORIDA

PUBLIC WORKS DEPARTMENT TRAFFIC ENGINEERING DIVISION	
DESIGN BY: YVES D'ANJOU, P.E.	SCALE: NTS
DRAWN BY: STEPHON RAMOUTAR	
CHECKED BY: ANDREW SEBO, P.E., PTOE	

GROUND SIGN ASSEMBLY DETAILS

SHEET NO. 1 OF 1

FOR SIGN ASSEMBLIES WITH MAXIMUM 8.75 SQUARE FOOT PANEL AREA

Typical Details

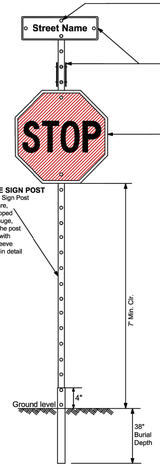
STREET ID (D3-1)



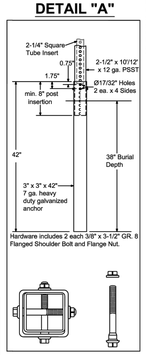
THE ENDS OF THE STREET ID SIGNS MUST BE BOLTED TOGETHER :

BOLTS - #18 HEX HEAD STAINLESS STEEL 5/16" x 3/4"

NUTS - 5/16" HEX HEAD STAINLESS STEEL W/ 3/8"NYLON WASHERS



DETAIL "A"



STREET ID (D3-1) MATERIALS:

LETTERS
WHITE TYPE XI SHEETING
LETTERING OF STREET NAME SIGNS SHALL BE COMPOSED OF A COMBINATION OF LOWERCASE LETTERS WITH INITIAL UPPERCASE LETTERS

BORDER
BORDER WIDTHS WILL VARY BASED ON LETTER HEIGHTS

LETTER HEIGHTS - BORDER WIDTHS
4 INCH LETTER = 0.375 INCH BORDER WIDTH
6 INCH LETTER = 0.500 INCH BORDER WIDTH
8 INCH LETTER = 0.750 INCH BORDER WIDTH

GREEN BACKGROUND
GREEN TRANSLUSCENT INK SILK-SCREENED CLEAR-COATED OR ELECTRO-CUT (EC) FILM OR EQUIVALENT

LETTER SIZES
SEE MUTCD TABLE 2D-2 (PG 163) FOR MINIMUM LETTER HEIGHTS LENGTH VARIES BY STREET NAME

HARDWARE
BOLTS - #18 HEX HEAD STAINLESS STEEL 5/16" x 3"
NUTS - 5/16" STAINLESS STEEL W/ NYLON WASHERS.

REGULATORY SIGN
WHEN NO STREET ID IS PRESENT
THE STOP SIGN SHALL BE MOUNTED FLUSH TO THE TOP OF THE POST WHILE MAINTAINING 7 FEET MIN. CLEARANCE BETWEEN BOTTOM OF SIGN AND GROUND LEVEL. ANY SIGN INSTALLED BACK TO BACK WITH THE STOP SIGN SHALL BE SMALLER THAN THE STOP SIGN.

STOP, DO NOT ENTER OR YIELD
WHITE TYPE XI SHEETING
PRESSURE-SENSITIVE RED TRANSLUCENT INK SILK-SCREENED CLEAR-COATED OR ELECTRO-CUT (EC) FILM OR EQUIVALENT.

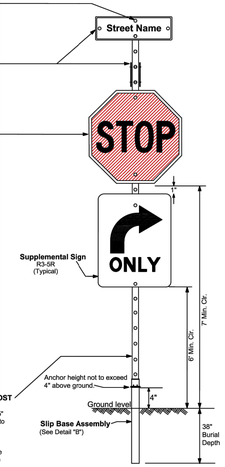
HARDWARE
FRONT: #18 HEX HEAD STAINLESS STEEL 5/16" x 3" BOLT W/ 3/8" NYLON WASHER
BACK: 5/16" HEX HEAD STAINLESS STEEL NUT W/ 3/8" STAINLESS STEEL WASHER.

NOTES: 1. ALL TYPE XI SHEETING UTILIZED MUST BE ON THE FDOT APL LIST.

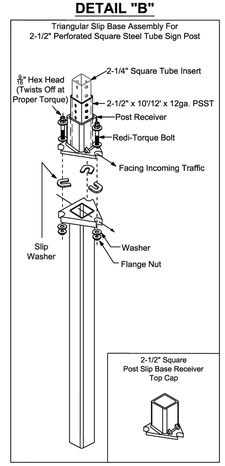
2. SEE BCTED TECHNICAL POLICY MEMO #TPM - 16-001 - SPECIFICATIONS FOR RETROFLECTIVE TRAFFIC SIGN MATERIALS.

FOR SIGN ASSEMBLIES WITH GREATER THAN 8.75 SQUARE FOOT PANEL AREA WITH SUPPLEMENTAL SIGN

Typical Details



DETAIL "B"



SQUARE TUBE SIGN POST
The Square Tube Sign Post shall consist of a 6 foot x 2.25" square tube insert inserted into a 2.5" square post receiver. Both tubes will be perforated, hot-dipped galvanized, 12-gauge, grade 50 steel. The post shall be installed into the slip base assembly shown in detail "B".

Notes:
1. Dimensions and certain details for the parts used to assemble the slip base connections are intentionally not shown. Slip base connections are patented manufactured products that are in compliance with NCHRP 350 crash test criteria. The base connection details are only shown on this plan to illustrate how the parts are assembled. The complete assembly must be designed to withstand 150 mph Base Wind Speed per 2013 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 6th edition and interims.

2. For standard ground sign installation, see detail entitled " Ground Sign Assembly Details".

REVISIONS	
DATE	DESCRIPTION
02-28-2020	ADDED ISOMETRIC VIEW
02-05-2021	UPDATED POST BASE HEIGHT
06-22-2023	UPDATED SIGN POST NOTES

BROWARD COUNTY FLORIDA

PUBLIC WORKS DEPARTMENT TRAFFIC ENGINEERING DIVISION	
DESIGN BY: CARMELO CARATOZZOLO, P.E.	SCALE: NTS
DRAWN BY: STEPHON RAMOUTAR	
CHECKED BY: CARMELO CARATOZZOLO, P.E.	

STOP SIGN AND STREET IDENTIFICATION ASSEMBLY TYPICAL DETAILS

SHEET NO. 1 OF 1

811 Know what's below. Call before you dig. 811 or 1-800-432-4770 or visit www.callsunshine.com

BCTED REF NO.: 241010061

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

PREPARED BY:
Kimley»Horn

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8201 PETERS ROAD, SUITE 2200, PLANTATION, FL 33324
PHONE: 954-535-5100 FAX: 954-739-2247
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

ENGINEER: CARLOS FLORIAN, P.E.
REG. No: 80500
DATE: 7/30/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025 | SCALE: AS NOTED
DESIGNED BY: EB | CHECKED BY: MM | FIELD BOOK:

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
BCTED DETAILS

SHEET NO. 27 | OF 28

CAD FILE: 27 - BCTED DETAILS

DRAWING FILE NO.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:27 BCTED DETAILS July 30, 2025 10:48:23am K:\ft_civil\043 jobs\043184255 rfq 12637-421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\25 BCTED DETAILS.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

Plotted By:Moore, Dillon Sheet Set:NW 5th Avenue Streetscape Improvements Layout:28 FPL PLANSHEETS July 30, 2025 10:48:39am K:\Ft_civil\043 Jobs\043184255 rfq 12637--421 to 5 nw 5th ave streetscape\Design\CAD\plansheets\28 FPL PLANSHEETS.dwg
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☐ INACCESSIBLE ☒ 13 kV ☐ FUTURE 23 kV ☐ 23 kV ☐ SALT SPRAY ☐



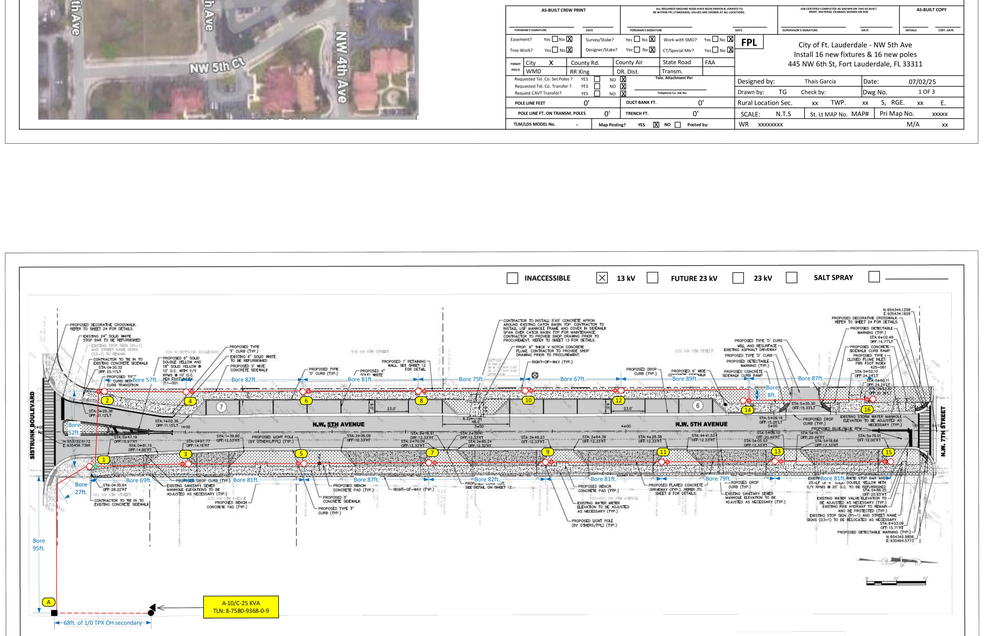
Legend:

Existing aerial transformer ----------
Existing distribution wood pole ---------
Existing distribution concrete pole -----
New OH conductor ----------
New UG PVC & cable ----------
New 17" hand-hole ----------
New 24" hand-hole ----------

Product summary				
Symbol	Description	Watts	Temp color	Quantity
	LED Black/Black Holophane Granville	39	3K	16
	23' (16' MH) black Washington pole	N/A	N/A	16

FEEDER: 700139

AS-BUILT CREW PRINT						AS-BUILT COPY
FOREMAN'S SIGNATURE / DATE		FOREMAN'S SIGNATURE / DATE		SUPERVISOR'S SIGNATURE / DATE		REVISED / DATE / INIT.
Easement? Yes ☐ No ☒	Survey/Stake? Yes ☐ No ☒	Work with SMO? Yes ☐ No ☒	FPL	City of Ft. Lauderdale - NW 5th Ave		
Tree Work? Yes ☐ No ☒	Designer/Stake? Yes ☐ No ☒	CT/Special Mtr? Yes ☐ No ☒		Install 16 new fixtures & 16 new poles		
Power MAIN: City X	County Rd.	County Air	State Road	FAA		445 NW 6th St, Fort Lauderdale, FL 33311
Power TAP: WMD	RR Xing	DR. Dist.	Transm.			
Requested Tel. Co. Set Poles ? YES ☐ NO ☒		Tele. Attachment Pol.				
Requested Tel. Co. Transfer ? YES ☐ NO ☒		Telephone Co. Init No.		Designed by: Thais Garcia	Date: 07/02/25	
Request CAVT Transfer? YES ☐ NO ☒				Drawn by: TG Check by:	Dwg No. 1 OF 3	
POLE LINE FEET 0'	DUCT BANK FT. 0'			Rural Location Sec. xx TWP. xx S, RGE. xx E.		
POLE LINE FT. ON TRANSM. POLES 0'	TRENCH FT. 0'			SCALE: N.T.S St. Lt MAP No. MAP# Pri Map No. xxxxx		
TLM/LDS MODEL No. -	Map Posting? YES ☒ NO ☐ Posted by:			WR xxxxxxxx M/A xx		



Construction Notes: (FPL contractor installing conduit and hand-holes)

Loc. 1-16: Install 1 LED Black/Black Holophane Granville 39W 3K on NEW 23' (16' MH) black Washington pole for pendant fixtures.
Loc. A: Install 2" riser.
Loc. 1: Install 24" hand-hole.
Loc. 1 to A: Run 1/0 TPX UG cable.
*All lights in this page are being fed UG.

FPL contractor installing 2" flex pipe with a minimum cover of 24" using directional bore. FPL contractor pulling #6 DPX and 1/0 TPX UG cable and doing terminations at all locations. Poles in this page to be installed in the ROW.
- FPL contractor doing any restoration required.
- All new hand-holes to be 17" unless noted.

FPL LED Rep: Alexander Acosta

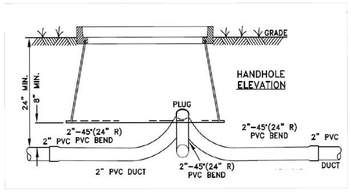
UG Footage: 1,280 ft.
OH Footage: 68 ft.

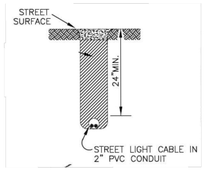
Permit required with City of Fort Lauderdale

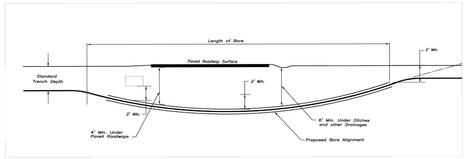
Permit required with Transmission for locations 1,3,5,7,9,11,13 & 15

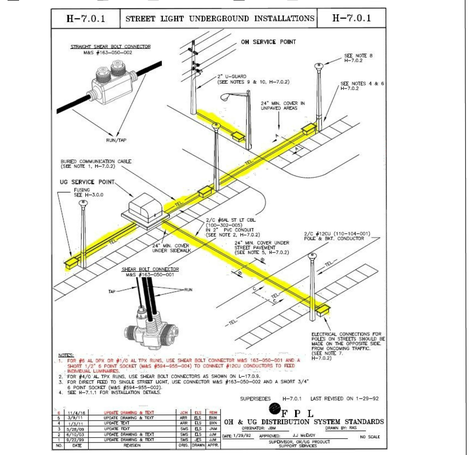
AS-BUILT CREW PRINT						AS-BUILT COPY
FOREMAN'S SIGNATURE / DATE		FOREMAN'S SIGNATURE / DATE		SUPERVISOR'S SIGNATURE / DATE		REVISED / DATE / INIT.
Easement? Yes ☐ No ☒	Survey/Stake? Yes ☐ No ☒	Work with SMO? Yes ☐ No ☒	FPL	City of Ft. Lauderdale - NW 5th Ave		
Tree Work? Yes ☐ No ☒	Designer/Stake? Yes ☐ No ☒	CT/Special Mtr? Yes ☐ No ☒		Install 16 new fixtures & 16 new poles		
Power MAIN: City X	County Rd.	County Air	State Road	FAA		445 NW 6th St, Fort Lauderdale, FL 33311
Power TAP: WMD	RR Xing	DR. Dist.	Transm.			
Requested Tel. Co. Set Poles ? YES ☐ NO ☒		Tele. Attachment Pol.				
Requested Tel. Co. Transfer ? YES ☐ NO ☒		Telephone Co. Init No.		Designed by: Thais Garcia	Date: 07/02/25	
Request CAVT Transfer? YES ☐ NO ☒				Drawn by: TG Check by:	Dwg No. 2 OF 3	
POLE LINE FEET 0'	DUCT BANK FT. 0'			Rural Location Sec. xx TWP. xx S, RGE. xx E.		
POLE LINE FT. ON TRANSM. POLES 0'	TRENCH FT. 0'			SCALE: N.T.S St. Lt MAP No. MAP# Pri Map No. xxxxx		
TLM/LDS MODEL No. -	Map Posting? YES ☒ NO ☐ Posted by:			WR xxxxxxxx M/A xx		

☐ INACCESSIBLE ☒ 13 kV ☐ FUTURE 23 kV ☐ 23 kV ☐ SALT SPRAY ☐









NOTES:

1. FOR COORDINATION PURPOSES ONLY. LIGHT POLE SCOPE OF WORK BY FPL.

THE PRESENCE OF GROUNDWATER SHOULD BE ANTICIPATED. CONTRACTOR'S BID SHALL INCLUDE CONSIDERATION FOR ADDRESSING THIS ISSUE AND OBTAINING ALL NECESSARY PERMITS.

ALL ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON NAVD 88. TO CONVERT ELEVATIONS TO NGVD 29, ADD 1.58'.

811 Know what's below. Call before you dig. 811 or 1-800-432-4770 or visit www.callsunshine.com

PREPARED BY:
Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
8201 PETERS ROAD, SUITE 2200, PLANTATION, FL 33324
PHONE: 954-535-5100 FAX: 954-739-2247
WWW.KIMLEY-HORN.COM REGISTRY No. 35106

ENGINEER: CARLOS FLORIAN, P.E.
REG. No: 80500
DATE: 7/30/2025
TEL: (954) 535-5100
FAX:

DRAWN BY: MM | DATE: MAY 2025
DESIGNED BY: EB | SCALE: AS NOTED
CHECKED BY: MM | FIELD BOOK:

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

REVISIONS

NO.	DATE	BY	CHK'D	DESCRIPTION

PROJECT # 12507
NW 5TH AVE STREETSCAPE IMPROVEMENTS
FPL PLAN SHEETS

SHEET NO. 28 OF 28

CAD FILE: 28 – FPL PLAN SHEETS

DRAWING FILE NO.

City of Fort Lauderdale • Procurement Services Department
101 NE 3rd Avenue, Suite 1650 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 1

Event 525
NW 5th Avenue Streetscape Improvements

ISSUED: November 14, 2025

This addendum is being issued to make the following changes:

1. The Bid Due Date is hereby extended to Friday, November 21, 2025, at 2:00PM (local time).

2. Line Item #23 has been changed from quantity 2 to quantity 4.

All other terms, conditions, and specifications remain unchanged.

Erick Martinez
Senior Procurement Specialist

Company Name: _____
(please print)

Bidder's Signature: _____

Date: _____